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Original Articles.

PERFORATING TYPHOID ULCER—PERITONITIS—OPERATION—RECOVERY.

BY ROBERT ABBE, M.D.,

NEW YORK.

LATE on Saturday afternoon, November 3d, I was asked by Dr. J. H. Bache, of this city, to see with him a young married woman, twenty-one years of age, whom he had been attending with typhoid fever for three weeks. Every characteristic symptom had been present: rather free diarrhœa, evening temperature ranging about 102° F., and delirium every night during the second week. On Monday, October 29th, the patient seemed to be beginning convalescence, all the symptoms abating. Wednesday night she was seized with great pain, as if something had suddenly given way in her abdomen below her navel. She vomited, and was much collapsed. Her temperature rose promptly to 102° F., with great pain and tympanites.

Dr. Bache at once suspected perforation, kept the patient absolutely quiet, and treated her by poultices over the abdomen, and enough morphine to allay her great pain. The temperature fell somewhat, but for two days varied from 102° to 102½° F. Her vomiting was less, but her tympanites continued. At the end of the second day her condition became suddenly worse; the pulse became weaker; the abdomen greatly distended, with skin stretched and shining.

As she had survived two and a half days, Dr. Bache thought, despite her low state, surgery might help her. On examination I found her with mind clear, but heart and respiration oppressed by her distended state; tongue dry and moderately coated; pulse, 140; temperature, 104° F. The distended abdomen was dull in the hypogastrium half-way to the navel, and the dulness extended along the right Poupart ligament. I confirmed the diagnosis and advised the earliest possible operation.

The patient was in too low a state to be removed to a hospital, so the most complete arrangements possible were made to do a thorough operation at the house. In this I was assisted by Drs. A. L. Fisk and Nelson H. Henry, of Trinity Hospital.

A median incision below the navel exposed distended coils of deeply congested and greatly inflamed intestine, smeared with sticky lymph. The pelvis and lower abdomen were filled with a collection of foul, purulent, and fetid intestinal extravasation. This was feebly confined by matted coils of intestines, loosely glued together, that broke apart on being touched, but which, being recognized, enabled me to introduce clean laparotomy sponges under the upper abdominal wall, where a few coils were seen which showed more recent inflammation. Two pints of foul, purulent fluid and thick lymph were cleaned out, and the abdomen irrigated with warm and weak sublimate solution, 1 to 20,000, followed by plain warm-water irrigation.

Search now revealed the cause. The lower part of the ileum showed many thick oval patches in its wall—their long axes parallel to that of the gut, and easily identified by touch as the gut was passed through the fingers, and shown also by increased subperitoneal hyperæmia. One such inflamed Peyer's patch showed a gangrenous perforation a quarter of an inch in diameter, from which intestinal contents were seen to pump out. This was promptly closed by interrupted silk sutures, over which two layers of Halsted mattress stitches were placed, these being found to be the only suture that would hold in the tender and inflamed intestinal coat. A large abdominal tamponade of iodoform gauze was placed within the abdomen and pelvis, and no attempt made to close the wound. A hot black coffee and whiskey enema assisted greatly in preventing shock; the patient was put back to bed in three-quarters of an hour from the beginning of etherization.

She passed a good night and had a stronger pulse next morning. Pulse, 132; temperature, 102½° F.; tympanites less. At the end of forty-eight hours after operation, as she was in good condition, except for tympanites, I removed the tamponade, reapplied a loose one, and gave five grains of calomel. This produced numerous loose movements and she felt much better. Temperature, 101½° F.; pulse, 120. A little fluid fæces leaked from the wound after the calomel action, showing that the perforation had slightly opened. This continued for two weeks, when it ceased, and the abdominal wound pursued the usual course, closing in rapidly by granulations, and has left a narrow and firm scar.

After the third day her appetite improved and a rapid convalescence ensued.

Remarks.—The recording of this one case is not an occasion for a long paper on the subject, which would be superfluous in view of the three excellent ones by Mears,[1] Fitz,[2] and Van Hook,[3] written in 1888 and 1891. But it is an opportunity to express a surgical view of the subject more mature than would have been possible a few years since. For, while but few cases of this emergency have as yet been operated on, corresponding conditions of perforating gastric, duodenal, and appendical ulcers have been relatively common in the hands of the general surgeon. Excepting for the exhausted condition of the patient during typhoid fever, there is practically no difference, as far as I can discern, between the conduct of perforations in various parts of the alimentary tract. The same sudden onset of symptoms is witnessed, acute tearing pain, shock, vomiting followed by tympany and peritonitis. The same sequel pertains as to the peritoneal exudation. In one case, shock or non-reparative inflammation will succeed and be fatal before operation, or in spite of operation; in another, a fine quality of plastic lymph will repair the damaged part, or hold the extravasation in check until the surgeon can operate. No doubts exist in my own mind that recovery without operation can follow perforation anywhere—and in typhoid also. But this is certainly infinitely rarer here than in other diseases, because the parts are centrally located where the explosion occurs and a natural outlet through the abdominal wall does not easily take place. The case narrated later, where a typhoid ulcer perforated and a resulting abscess was opened in the perineum, is consistent with much of nature's good work.

[1] J. Ewing Mears: Transactions of the American Surgical Association, 1888.

[2] Fitz: Transactions of the Association of American Physicians, 1891, vol. vi., p. 200.

[3] Philadelphia Medical News, 1891, vol. ix., p. 591. Chicago Medical Record, 1891, vol. ii., pp. 229–270.

Fitz says: "The similarity of the symptoms of typhoid perforations of the bowel and those of the appendix, is striking. Cases of perforating appendix have repeatedly been regarded as typhoid fever, and, as a rule, the symptoms of typhoid which suggest perforation of the bowels are those which in the absence of typhoid would be regarded as diagnostic of appendicitis. The symptoms are not merely similar, they are actually identical. Even to the usual localization of the consequent peritonitis to the right iliac fossa."

This lucid statement by Fitz must appeal to every observer of appendicitis cases, as true to the letter. Why one class of cases should be left to die, while we operate on all appendicitis cases when perforation can be recognized, does not appear. The typhoid statistics are improving, and as it was in the other, we may here also soon record as much gain in the near future.

Van Hook operated on a desperate case at two o'clock in the afternoon, where perforation had taken place at 5 A.M. The extravasation was wide of the ulcer. The patient was washed out with plain boiled water, sewed up tight, rescued from collapse, and saved.

Now, we have not yet learned enough about the surgical procedure to do exactly right in all cases, and it gives me some satisfaction to state in a few words what I regard of growing importance in the work. The technical points are known to every surgeon, but very essential do I consider it, that the surgeon should never be so hasty in getting at his work that he enters upon it handicapped by poor assistance, poor light, poor arrangements for irrigation and sponging, or inadequate plans for restoration from shock.

I regard the rescue of these cases from collapse as most important. I always give a restorative enema at the end of operation (often on the table) composed of a cup of hot black coffee and one or two ounces of whiskey, followed later by hypodermics of strychnine and digitalis, abundant heat about the body, and elevation of the foot of the bed for twelve hours. Very warm saline infusion into the vein, of at least one pint, must always be tried as a valuable resort.

To quote from Dr. Van Hook's article, the statistics up to October, 1891, of operation for typhoid perforation were:

"1884. Mikulicz, four cases, one recovery, though, unfortunately, the diagnosis is doubtful.
1885. Lücke, one case, resection, death.
1886. Escher, one case, recovery, but the case is regarded by Louis as one of appendicitis.
1886. Greig Smith, one case, doubtful diagnosis, death.
1886. Bartlett, one case, death.
1887. Bontecou, one case, death.
1887. Morton, one case, death.
1889. Bontecou, one case, death.
1889. Senn, volvulus and perforation, one case, death.
1889. Hahn, two cases, death.
1890. Kimura, one case, death.
1890. Taylor, one case, recovered.
1891. Van Hook, three cases, two dead, one recovered.

Making in all, nineteen laparotomies and four recoveries.

"Mikulicz's case was said by the author to be of doubtful origin. That of Escher was probably a perforative appendicitis. Taylor's case should not be counted, as it was operated on ten days after onset of symptoms, and is not demonstrated to have been typhoid perforation.

"If we include all the doubtful cases, the present recovery (Van Hook's case), as appears from the literature at command, is the nineteenth case and fourth recovery. If we include only closely diagnosticated cases, it is the twelfth case and first recovery."

In 1894, Cayley[1] and H. Allingham[2] each reported a fatal case after early operation, stitching the gut to the abdominal wound.

In *The Lancet*, 1894, vol. i., p. 1615, is recorded a case of supposed perforation with collapse and recovery, in a female, which I am strongly inclined to regard as one of high intestinal hemorrhage in the fourth week, indicated by a drop in temperature to 95°, rapid thready pulse, cold extremities and extreme pallor, and fulness of the umbilical region and tenderness in the right hypochondrium. No pain existed and the patient made a slow recovery with a very thin pulse. No operation was performed.

In August, 1893, Dr. Newton, of Chicago,[1] treated a case of supposed perforation by morphine; as the parents objected to the operation. The case seems undoubted, and the boy recovered, an abscess of the pelvis being opened a fortnight later in the perineum.

Netschagaw, of St. Petersburg, records a case this year of resection of a portion of perforated bowel in typhoid, with recovery.

Since Van Hook's successful case in 1891, there have been reported the following operations:

1894. Cayley and Bland Sutton, one case, fatal.
1894. H. Allingham, one case, fatal.
1894. Netschagaw, Medical News, December 1, 1894, p. 609, one case, recovery.
1894. Abbe, one case, recovery.
1894. Alexandroff,[2] one case, death.

If we accept all the nineteen laparotomies for so-called typhoid perforations with four recoveries, collected by Van Hook, and add the five new ones, we have 24 cases and 6 recoveries.

If we throw out doubtful cases—which I agree with Van Hook should be done—and accept only 12 of the 19 with 1 recovery—to which the above five are added—then the correct statistics revised up to date, stand, 17 cases with 3 recoveries.

[1] British Medical Journal, 1894, vol. i., p. 578.
[2] Ibid.

[1] Chicago Medical Recorder, 1893, vol. v., p. 409.
[2] Clinical and Therapeutical Journal, vol. ii., p. 735. Paris, 1894.

CASES OF PERFORATION OF THE STOMACH FROM ULCER, WITH SUCCESSFUL OPERATION.

By A. V. ATHERTON, M.D.,
SURGEON TO ST. JOHN'S HOSPITAL, TORONTO, CANADA.

Case I. February 5, 1884.—R. O'B——, aged about fifty, night watchman in gas-house. For three years has been much troubled by dyspepsia, giving rise to pain in the stomach, flatulence, and more or less vomiting. Fifteen months ago had a severe attack of hæmatomosis with melæna, and accompanied by syncope. For the three following months he suffered from great anæmia and general anasarca. After this length of time he began to resume his customary duties, but his old dyspepsia persisted.

One morning, after his usual night-watch, he was suddenly seized with a most excruciating pain in the epigastrium, causing him to drop on the floor where he stood. He also vomited, and great drops of sweat came out on his face. He was carried in the arms of his fellow-workmen to his home, which was close by.

I visited him about two hours afterward, and found him lying on his back with knees drawn up, complaining bitterly of pain in upper abdomen, increased by long breath or movement of body; countenance anxious; extremities and nose cold and clammy, and a feeble pulse of 60. He reported having eaten only a light lunch in the night, nothing since. He described the pain with which he was seized as feeling "just as if a spike were being driven through" him.

Vomiting of a little gruel-like fluid occurred during my visit.

I at once gave one-fourth of a grain of morphine hypodermically, and ordered the same dose *p. r. n.* by the mouth. To have only small bits of ice to quench thirst. Hot things to be applied to body till reaction occurred.

12 M.—Has had one dose of morphine since visit,

and feels much easier. No more vomiting. Extremities are still somewhat cold. Abdomen much distended, tense, rather hard, and tympanitic. Liver dulness entirely obscured.

3 P.M. — More comfortable. Extremities warmer. Pulse, 88 ; temperature, 99° F.

January 6th, 10 A.M.—Had another one-fourth grain of morphine last evening, and rested fairly well. Pulse, 92 ; temperature, 99.6° F. Abdomen still much distended and tympanitic, but not quite so tense and hard.

8 P.M.—Countenance better. Had one-fourth grain morphine during day. Pulse, 96 ; temperature, 100° F.

January 8th, 10 A.M.—Takes two or three doses of one-eighth grain morphine every twenty-four hours, which keeps him comfortable. Abdomen still sufficiently tympanitic to obscure liver dulness, but less tense.

Has had a nutrient enema or two, but does not retain them. May have two drachms of milk and lime-water every half-hour.

January 10th.—Abdomen now quite soft, but still tympanitic. Pulse, 80 ; temperature, normal. May have half an ounce of milk and lime-water every half-hour.

January 15th.—Doing well, abdomen quite flat, complains a little of flatulence after milk. Relieved by maltopepsin.

January 23d.—Going about the house, but has more or less dyspepsia.

In 1886 I saw him at his old employment, still complaining of his stomach.

In 1889 the patient died with symptoms of perforation after a day or two's illness. I did not see him, as I had removed to Toronto.

CASE II. February 4, 1892, 12.15 A.M.—M. H——, aged twenty-two, female. General servant, always healthy till three years ago, when she had an attack of severe dyspepsia, which kept her in bed for three months. Became very pale and thin at this time. Has suffered every year since, for a few weeks, with pain after eating and sometimes with vomiting ; never raised blood.

A week ago had quite a severe attack one day of pain in left epigastrium, accompanied with eructations of wind.

The present illness began just as she was retiring to rest after her usual household duties, with an agonizing pain in epigastrium and left hypochondriac region, and was accompanied with vomiting of her evening meal, which consisted of hard-boiled eggs and bread with raisins in it.

When I visited her, about an hour after the seizure, she was suffering acutely with pain in upper abdomen and on left side, running through to back. Extremities were cold ; abdomen hard and tender, especially in left upper part, but not much distention nor tympanites ; breathing thoracic ; pulse, 90 ; temperature 98° F.

After two hypodermics of ¼ grain morphine each, she became easy. Ordered ¼ grain morphine *p.r.n.*, and a teaspoonful of cold water occasionally to relieve thirst

9.30 A.M.—Slept fairly well without further opiate. The attendant, contrary to instructions, gave a few teaspoonfuls of milk a short time ago, which caused some pain ; ¼ grain morphine given hypodermically. To adhere strictly to the drachm doses of water. A bed-pan to be used for urine.

8.30 P.M.—Had one dose of morphine two hours ago for pain. Dozing. Abdomen rather less tender and hard. Pulse, 122 ; temperature, 100° F. ; respiration, 35.

February 5th, 9 A.M.—One-fourth grain morphine at midnight. After that rested well. Abdomen more distended and tympanitic than yesterday, but less tender and softer. Pulse, 132 ; temperature, 100° F.; respiration, 33. A hypodermic injection of ¼ grain morphine given.

11 P.M.—Had three or four doses of morphine since morning. Raises wind occasionally. Pulse, 138 ; temperature, 101.6° F.

February 6th, 9 A.M.—Three doses of morphine in night. Pulse, 140 ; temperature, 101.5° F.

11 P.M.—Menstruation began this afternoon, two weeks before time. Has had more than a grain of morphine to-day. Tympanites is getting more marked. Gas passes freely downward. Pulse, 140 ; temperature, 102° F.

February 7th, 9 A.M.—Rested well. Three half-grain morphine suppositories used in night. Says she feels better. Pulse, 130 ; temperature, 101° F.

February 8th, 9 A.M.—Had five suppositories of morphine since yesterday morning. Rather restless night. Pulse, 140 ; temperature, 102° F. Epigastrium very prominent and tympanitic. A hypodermic needle thrust in and much foul gas escaped with relief.

7 P.M.—A pretty comfortable day. No opiate. Pulse, 124 ; temperature, 101.6° F. ; respiration, 26.

February 9th, 9 A.M.—Had restless night, some delirium. Took one-half grain of morphine by mouth. Complains of pain in top of left shoulder. Feels hungry. Pulse, 138 ; temperature, 102.2° F. May have a teaspoonful of milk and lime-water every half-hour. Epigastrium again punctured with good effect.

Patient grew worse during the day, the pulse running up to 144. At 8.30 P.M. I made a small opening in prominent epigastrium and let out about two quarts of sour greenish fluid from the peritoneal cavity. Drainage-tube inserted. Dr. J. H. Burns gave chloroform and rendered other assistance.

February 10th.—Patient sank during the night, with constant delirium, and died at 6.30 A.M., being the seventh day of illness. No autopsy.

CASE III. September 18, 1894.—I. D——, aged twenty. Female servant. Usually well, with the exception of dyspeptic symptoms on and off during the last three or four years. Never laid up by them. Can never eat meat without suffering. Has frequently vomited after meals. During the past month, and especially for a week back, has been troubled very much with her stomach, although not enough to prevent her performing the customary duties of a general servant.

At her dinner, at 2 P.M., and at 6.45 P.M., was suddenly seized with very severe pains in left epigastrium and left hypochondriac region. This was accompanied with pain in the top of left shoulder ; and she vomited about a pint of thin sour fluid.

I saw her within an hour, and found her moaning with pain ; extremities somewhat cold and clammy ; left upper abdomen somewhat hard, tender, and slightly increased in resonance, without noticeable distention ; and with decubitus on back, knees being straight. Pulse, 88, of fair strength ; temperature, 99.4° F. ; respiration, 28.

After two hypodermics of one-fourth of a grain of morphine I left her fairly comfortable. To have only drachm doses of cold water, and ¼ grain morphine *p. r. n.* To keep perfectly quiet, and use bed-pan if necessary.

At 10 P.M. she was quite easy, two doses of morphine having been taken by the mouth. No more vomiting. Pulse, 116 ; temperature, 100° F. ; respiration, 30.

September 19th, 7 A.M.—Had a quiet night, sleeping at intervals, no further opiate required. Breathing continues to be thoracic. No further distention. Left upper abdomen still tender on motion or pressure. Pulse, 92 ; temperature, 100.2° F. ; respiration, 28.

Considering an operation advisable I had her removed in an ambulance to St. John's Hospital at 8 A.M.

10 A.M. *Operation.*—Chloroform by Dr. G. B. Smith, assisted by Dr. J. H. Burns. The usual antiseptic precautions having been taken, I made an incision from four to five inches long in the middle line of the epi-

gastrium. On getting into the peritoneal cavity, a few ounces of turbid serous fluid escaped, and the somewhat distended stomach presented. This I carefully drew up into the wound. While doing so, I felt some adhesions giving away in the direction of the pylorus, and then that part came into view. Its peritoneal covering was red and much thickened, having several shreds of the same character hanging from it and partly surrounding an opening of the size of a quill in the stomach-wall. The perforation was situated near the gastro-hepatic omentum and not far from the pylorus. A probe passed readily into it, and a drop or two of fluid escaped.

I now introduced two sutures of fine silk with a common sewing-needle close to the margin of the opening, and tied them, thus snugly closing it. Outside of these I placed five or six Lembert sutures of the same material. Several times the thread cut through the soft thickened peritoneal coat, but finally I succeeded in getting a sufficient number to hold, my assistant keeping the folds of the indurated coats of the stomach-wall close together until all the sutures were tied.

I then gently cleaned the surface of the stomach with a soft sponge, and closed the abdominal wound with silkworm gut sutures. No washing out of either the stomach nor peritoneal cavity, and no drainage. Iodoform gauze dressing.

During the operation the patient vomited about a pint of greenish fluid.

5 P.M.—Vomited once since operation. This caused considerable pain. Two hypodermics of $\frac{1}{4}$ grain morphine have been given. Has had an enema of beef-tea and brandy. Temperature rose to 102.4° F. at 2.30 P.M. Is now 101.8° F.; pulse, 104. Gets a teaspoonful of cold water occasionally.

September 20th, 10.30 A.M.—Had a third dose of $\frac{1}{4}$ grain morphine at midnight. Has vomited several times, and then complained of considerable pain in neighborhood of wound. Slept three or four hours during night; nutritious enemata are given every six hours and are retained. Pulse, 82; temperature, 99° F.

September 21st, 11 A.M.— No further opiate required. No vomiting since yesterday afternoon. Had four hours sleep during night. Pulse, 88; temperature, 98.8° F.

September 22d, 10.30 A.M.—Slept four or five hours. Pulse, 88; temperature, 99.2° F. Rectum was washed out with warm water last evening. Bowels moved well. As nausea had ceased, may have ℥ j. of cold water every half-hour.

September 23d.—Doing well. Pulse, 76; temperature, 99° F.; to have two drachms of milk and lime-water every half-hour.

September 24th.—Menses appeared last evening. They were due about the time perforation occurred. Pulse, 76; temperature, 98.6° F.

September 25th.—Doing well. Has a little flatulence at times. Pulse, 76; temperature, normal. Ordered five grains bismuth subnitrate four times a day.

September 28th.—Patient takes a considerable quantity of milk and junket now. Pulse and temperature as before. Omit nutritive enemata, which had been given only twice a day of late. Sutures all removed yesterday. Transferred to the general ward to-day.

October 1st.—Patient takes about thirty ounces of milk and a pint or more of junket every day. Has no dyspeptic symptoms whatever. Bowels are moved every other day by enema.

October 8th.—Doing well. Has a quart of milk, a pint of junket, a few soda biscuits, and the white of one or two eggs per day. May get out on couch.

October 17th.—Has been going about the ward for several days, and left for home by train to-day. To continue present diet, chiefly, for several months. Has not felt any discomfort at all from food for two or three weeks.

Remarks.—I think no one can doubt that the first case reported was an instance of recovery from perforation by a gastric ulcer. Unfortunately, however, it is more than probable that the same ulcer or another one brought about a fatal issue by a subsequent perforation.

In the second case we have the patient living till the seventh day after this occurrence. My experience in the first case led me to hope for a possible recovery in the following one, especially as the symptoms of shock, distention, etc., were not nearly as marked as in the patient who recovered. After losing this patient I determined that I never would trust to the powers of nature in a similar case again, but do an early laparotomy and suture the opening in the stomach.

As it was after dark when I first visited the third case, I thought it advisable to wait till morning before operating. When morning came, and I found the patient had passed such a comfortable night and was then feeling and looking so well, with little or no abdominal distention, I had half a mind to postpone surgical interference. But the remembrance of my preceding case, with her apparent improvement after morphine and rest, warned me that too much reliance could not be placed upon any such temporary lull in the symptoms, and I therefore had her at once removed to hospital for operation.

As there was so little of the stomach-contents or of inflammatory material in the abdominal cavity, I did not deem it necessary to wash it out. Neither did I attempt to clear out the stomach itself, because it would have been impossible to have done so via the perforation without the escape of some of its fluid into the peritoneum, and I did not think it of sufficient importance to demand the use of the œsophageal tube for that purpose. Possibly, by emptying this viscus, less strain would be put upon the sutures in its wall, but in the present instance they must have borne that strain well, although the patient vomited a number of times after the operation.

In view of the fact that a very small per cent. of cases of gastric perforation from ulcer recover, and some of these after long and continued suppuration and discharge, we think that most medical men will agree that when the diagnosis is reasonably certain, a laparotomy should be done, and that with the least possible delay. As far as I have been able to glean from the reported cases, none has made a good recovery when twenty-four hours or more have elapsed between the onset of the symptoms and the operation of gastrorrhaphy.

In conclusion, let me draw attention to the pain that was complained of in the top of the shoulder in two of the cases reported. Mr. Gilford reports, in the London *Lancet* of June 2d, another in which pain, in the top of both shoulders, was a prominent symptom.

Pain in this locality is not, however, necessarily diagnostic of gastric perforation only, for I recently operated on a ruptured tubal pregnancy, where there was acute pain in both shoulders the day before operation.

Transplantation of the Human Cornea.—At a recent meeting of the Vienna Society of Physicians, Professor Fuchs exhibited a case of transplantation of the human cornea. It is well known that Professor Hippel has succeeded in transplanting pieces of the cornea in four cases; but the pieces of cornea that he transplanted were small, while Professor Fuchs used flaps of from four to five millimetres in diameter. Large pieces of the cornea, when transplanted, do not become opaque so soon as small ones. The pieces for transplantation used by Professor Fuchs in this case were taken from a human eye. Four weeks had elapsed at the time of exhibition since the operation had been performed, and the piece implanted was perfectly transparent, while in previous cases the opacity had commenced after the tenth day.

A CASE OF TETANUS WITH DEMONSTRATION OF THE BACILLI; TREATED WITH INOCULATIONS.[1]

By W. GILMAN THOMPSON, M.D.,
NEW YORK.

The patient was a schoolboy, thirteen years of age, admitted to the Presbyterian Hospital in August last. Previously he had been in ordinary good health. When I first saw him his condition strongly suggested hysteria, or rather one of those cases of hysterical or pseudorabies which are not uncommon, and there was a history dating back for several years of occasional fits of hysterical laughing, coughing, and crying, with violent outbreaks of passion. The subsequent course of the disease, however, fully established the diagnosis of tetanus, and this was further confirmed by finding the specific bacillus.

The following data, which have been kindly furnished me by the House Physician, Dr. Thornley, were noted on the boy's admission:

Three weeks ago, while getting over a fence, the patient stepped on a spike which penetrated his shoe and made a wound in the ball of his right foot. A poultice was applied and the wound healed quickly. About a fortnight after the injury he began to complain of pain in the foot. The next day the leg grew painful so that he limped very much in walking. The thigh and hips next became painful, and the whole limb stiff; general pains were also noticed. Two days ago he first complained of stiffness in the jaw. He had been told that he was going to have "lock-jaw," which alarmed him and his family, so they brought him to the hospital. His symptoms became rapidly worse, and on admission frequent clonic spasms of all the muscles appeared with some opisthotonos, but no general convulsions. The jaw became set and the boy was unable to swallow. He also developed general anæsthesia. Physical examination showed nothing of interest beyond the nerve-muscle symptoms. The patient was somewhat emaciated but not anæmic. The mouth could only be opened about three-eighths of an inch, and this effort caused decided risus sardonicus. The thoracic and abdominal muscles were prominent and subject to spasms of board-like rigidity. The major muscles of both lower limbs became rigidly contracted upon slight irritation. There was intermittent contraction of the extensor longus pollici in both legs, with some slight dulness of sensation over this region. Deep reflexes not obtainable. The pupils were regular and reacted normally.

The symptoms were evidently exaggerated by observation (for the boy swallowed without difficulty a glass of milk which was left beside him), yet the means ordinarily employed to detect hysteria failed of effect, and convulsions could not be excited by any reasonable degree of peripheral irritation. The patient grew worse, and during the following week reached a condition in which the muscles became so rigid that he was unable to make any voluntary movement at all. Tetanic contractions were always present even during sleep, but whenever the slightest stimulus was applied, such as the change in temperature or weight produced by removing the bed clothing, or by tapping on the chest, the entire body became as rigid as a board. In fact the boy could be lifted completely off the bed, by raising the toes of one foot, so that the only support of the body was at the occiput.

A peculiarity of this condition was that the patient repeatedly said that he had "no pain at all." When one recalls the intense pain of a "cramp" in the calf of the leg which sometimes seizes a person at night, it seems incredible that tetanization so severe as to throw every muscle into strong relief should exist for hours continuously without producing any pain or even soreness. Spasmodic jerking and twitching of the muscles did occur frequently, and at times affected the whole body, and these spasms were often preceded by a cry of pain very closely resembling that of hydrocephalic children, and which sometimes occurred during sleep; but uninterrupted contraction, no matter how severe, was not painful, even when so strong that the arms, which were kept flexed across the chest, could not be extended short of the use of force which would have fractured them. Another very curious fact in connection with this disease is that no degree of continued electric or other stimulation, applied physiologically to muscles either directly or through their nerves, is capable of maintaining a muscle in tetanus more than a few moments at a time. Relaxation from fatigue inevitably follows. But in this case the rigidity was absolute for hours together. The diaphragm and the tongue seemed to be the only voluntary muscles not affected. The breathing consequently became wholly diaphragmatic, and the boy was able to swallow fluids which were poured between the set teeth.

The electric reactions of the muscles were tested with the following results: The minimum galvanic current of a dry silver battery which produced perceptible muscular contractions was, for the masseter, 15 cells; right arm, 9 cells; left arm, 10 cells; right leg, 23 cells; left leg, 19 cells. The infra-maxillary muscles were strongly and painfully contracted with 25 cells, but the jaw was not opened beyond the usual three-eighths of an inch. Other symptoms which predominated were constipation, incontinence of urine, excessive perspiration, and fever.

The following notes are copied from the record of the fourth day after admission, or the ninth day of the disease:

"Profuse perspiration exists. The patient cries continually for water, which he swallows with difficulty. Spasms more frequent, twenty or thirty occurred in the night. During intervals muscles still stand out prominently and are relaxed to some extent, but not wholly. Arms are becoming more involved in spasms. Abdominal muscles very distinct, more rigid than any others. Feet are flexed and markedly inverted; the first phalanx of the toes is extended; the others are flexed. Patellar reflexes are lost."

On the thirteenth day of the disease the patient became much worse, owing to progressive exhaustion and emaciation. The temperature, which had not previously been above 102.5° F., suddenly rose without chill to 106.8° F., with a very feeble pulse of 164 and respirations of 45. There was repeated projectile vomiting and the patient was evidently *in extremis*. There was delirium, and the spasms were very frequent and severe.

At this time I succeeded in obtaining from the Loomis laboratory a tetanus toxin, made after the method of Brieger, that is, it was developed by growing fresh tetanus germs in a strong bouillon, and the boy received daily, for five days, inoculations of from one-half to one cubic centimetre, which were placed in the gluteal region. Before the inoculations were given various anti-spasmodic remedies were tried, such as chloral, morphine, urethan, conium, etc., but all were practically without effect upon the muscular rigidity. On one occasion I ordered a very hot bath, 105° F., hoping that it might relax the spasms, but the result was so unsatisfactory that it was not repeated. The arms were completely relaxed in the bath, and remained so for some minutes, but the pulse rose to 200 and became very feeble. While the disease was at its height, nutrient enemata were given, for mouth-feeding became very difficult.

Much interest attaches to the question whether the inoculations benefited the patient or not, and I confess myself somewhat in doubt in regard to it. They certainly did no harm, and in each case were followed by a fall in temperature, excepting after the last inoculation, when it rose a degree and a half. The patient

[1] Read before the Practitioners' Society, New York, November 2, 1894.

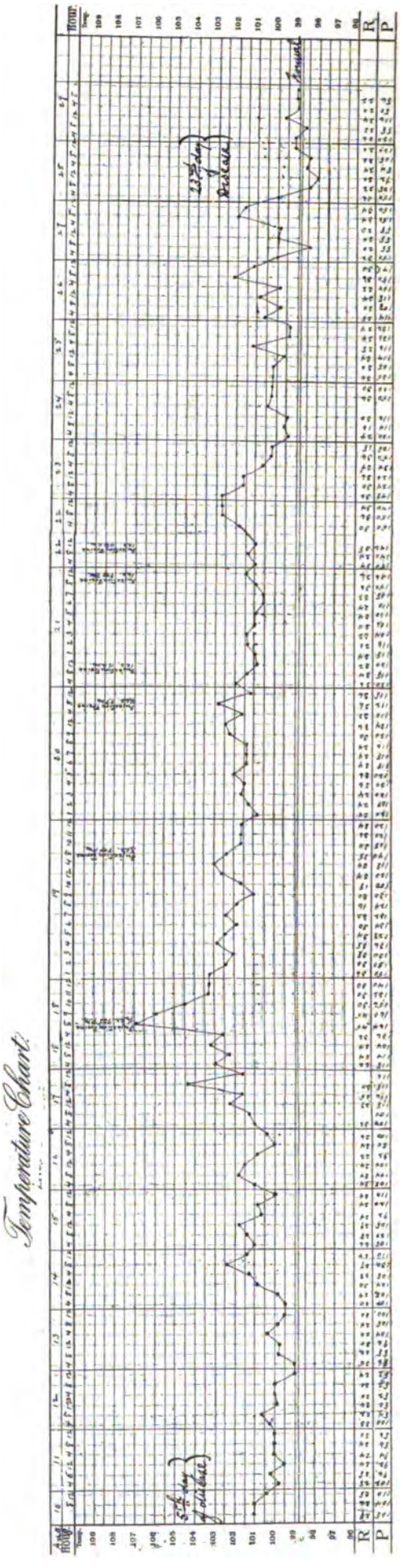
was almost moribund, with a temperature of 107° F. and a pulse of 164, when the first inoculation was given, and next day he was decidedly better, although the tetanus and muscular spasms continued for five or six days longer before they began to diminish. This all may have been merely a coincidence, but according to Gowers, only ninety per cent. of all cases recover without inoculation, and Dean states that the tetanus mortality in the London Hospital, for the past sixteen years, has been eighty per cent. Recovery is certainly very rare after the symptoms have become as severe and the exhaustion as great as in this case, which lasted for two months before the tetanus entirely disappeared.

Never having employed the toxin before—in fact I believe it had not been previously given in this city—I was cautious in its administration, and no doubt gave smaller doses than were necessary, not over 1 c.c. being injected at a time. From inoculations made upon animals with the same toxin, it seemed less powerful than I supposed, and it had perhaps deteriorated in the daylight, as it is said to be very susceptible to the chemical rays of the sun. It was originally derived, however, from a very virulent case, and was the only specimen obtainable in town at that time. It would be a matter of great accommodation if bacteriologists would keep all the new toxins and antitoxins on hand ready for immediate use.

The subsequent history of the case is uneventful. The symptoms subsided very gradually, the rigidity of the jaw slowly lessened, and the muscles of the legs were the last to relax. A spastic condition of one of them continued for some time after the patient was up and about the ward, and the right foot retained the position of talipes equinus. The delirium, vomiting, thirst, and perspiration also slowly diminished, and the fever, which had been of a continued type for a fortnight, subsided completely upon the twenty-third day. After two months the boy wholly recovered.

I was very anxious to have the diagnosis confirmed by bacteriological examination, and Dr. Connolly, of the Bacteriological Department of the University Medical College, kindly assisted. He made cultures in two agar and two bouillon tubes, from blood taken from the immediate vicinity of the scar on the boy's foot, the original wound having healed, but they gave no result. We then drew three drachms of blood from the patient's median cephalic vein, and injected this beneath the skin of a rabbit. No result was produced, and the animal remained as lively as ever. This was not necessarily discouraging, as the tetanus bacilli are not usually found free in the blood, and at the time of the latter experiment (the twenty-second day of the disease) the toxins in the blood were probably not strong. I then asked Dr. Connolly to examine the soil in the yard in East Eighty-first Street, where the boy received his injury, and after diligent search he succeeded in getting tetanus cultures from scrapings made about the hole in the boy's boot, at the point where the iron fence-spike had penetrated in going into his foot. Specimens of these bacilli, some showing the typical spores, are to be seen under the microscope.

It is now just ten years since tetanus was shown by Rattone to be an infectious disease, capable of inoculation from man to the lower animals. The pure cultures of the bacillus were first obtained by Kitasato five years ago. Its natural habitat appears to be the upper layers of the soil, especially in towns and suburban districts. Sternberg produced tetanus in a rabbit by inoculation with mud from a street gutter in New Orleans. Its common occurrence among the fishermen along the Shrewsbury River, near Seabright, N. J., and in some parts of Long Island, is familiar. The tetanus bacilli form straight thin rods which have rounded extremities that sometimes project into long threads. The spores form at one extremity of the bacilli, and as they are spherical and rather larger than the latter, each germ with its spore looks like a small club.



The bacilli grow readily in various common culture media, both with and without oxygen, and at ordinary temperatures, the best being from 36° to 38° C. Cold below 14° C. checks their growth. According to Kitasato, the spores develop in from a day and a half to a week, depending upon the nature of the culture medium. They do not grow well in blood-serum. The spores have been proven to remain capable of development even after two months of drying, and Turco has demonstrated that they withstand a five per cent. carbolic acid solution for fully ten hours. They die in three hours in 1 to 1,000 corrosive sublimate solution, but the addition of weak hydrochloric acid kills them quicker.

Kitasato has derived pure cultures of the bacilli from the pus of inoculation wounds. Brieger, in 1886, isolated a crystallizable toxin, which he named "tetanin," and his work was confirmed by Kitasato and Weil. This toxin is fatal when inoculated, but a still more powerful tox-albumin has more recently been isolated by the same bacteriologists, which destroys guinea-pigs, mice, and rabbits when inoculated. It is a product which rapidly loses its virulence in sunlight.

Kitasato, to whom we owe much of the best study of these tetanus poisons, has succeeded in rendering both rabbits and mice immune by repeated inoculations with the tox-albumin; and two other experimenters, Tizzoni and Cantani, have immunized the dog and guinea-pig.

Kitasato failed to find the bacilli in human blood, but its toxins are undoubtedly present, for he succeeded in killing mice with tetanic symptoms produced by inoculation of very minute quantities of the blood—only 0.2 to 0.3 ctgr.

Two interesting cases of inoculation with the tetanus antitoxin are reported by Dean and Evans, respectively, in the *British Medical Journal* of September 15, 1894 (pp. 579 and 581). The patients both recovered after severe symptoms had developed. The dose injected was 2¼ gm. Tizzoni gives the maximum dose at 4.5 gm.

NERVOUS DYSPEPSIA.

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Nervous dyspepsia, though a well-established category of gastric disturbance, the one of the many dyspepsias that has maintained its place despite the later investigations and researches on the functions of the stomach, and consequent establishment upon a more scientific basis of the pathological processes proper to it, and though much has been written upon it, is still to-day a jumble of all sorts and most varied morbid states: Reflex gastric irritation, organic disease of the nervous system, hysteria, neurasthenia, general intoxication of the system, etc.

Leube,[1] in his first communication to illustrate and more clearly define what he understood by nervous dyspepsia, relates two cases, one in which there was an enlarged spleen, and as no examination of the blood was made at the time, it is impossible to say whether this enlargement was due to malarial intoxication or to some affection located essentially in the blood; we can assume that either one or the other of these two conditions was present, and the remedies successfully employed for the relief of the case, quinine and iron, will support such an assumption. In the second case there was undoubted pregnancy, for the woman aborted, apparently in consequence of an intra-uterine examination, and immediately thereafter her gastric trouble began to improve, and in a short time she was well. On another occasion[1] he stated that he included in this group all the cases of dyspepsia that arise in any way from direct or reflex irritation of the gastric nerves, from pregnancy, from diseases of the female genital organs, from intoxications of the system, from organic or functional diseases of the nervous system, from constipation. According to others,[2] the entozoa may be a source of nervous dyspepsia. Glax,[3] Burkart,[4] hold nervous dyspepsia to be but one of the symptoms of that disturbed condition of the general nervous system known as neurasthenia, and Burkart proposed the name of neurasthenia gastrica as better and more expressive of the pathological condition present. Ewald[5] upholds this position: Nervous dyspepsia is but a phenomenon of neurasthenia, and he maintains, as did Burkart, that the term nervous dyspepsia should be discarded, and in its stead the more significant one of neurasthenia dyspeptica adopted. He prefers the qualifying term dyspeptica for the reason that generally both stomach and bowels are affected at the same time. Leyden,[6] though holding the view that the disease is due to a pathological condition of the general nervous system, contends strongly, nevertheless, for the autonomy of this category. However, from his etiology of the affection, from his further description of it where he quotes freely from Beard, and from the therapy recommended, it is evident that, with the exception of his refraining from the use of the word neurasthenia, he is in full accord with Burkart, Ewald, Beard. Herzog[7] says that in all cases of nervous dyspepsia we have either hysteria or neurasthenia. Bouveret likewise identifies nervous dyspepsia with neurasthenia.[8]

As a necessary consequence of this grouping together of different morbid states, the symptoms of all these have been thrown together and described as the symptomatology of nervous dyspepsia. We have thus all the symptoms that may be encountered in neurasthenia, in hysteria, and, in addition, according to Leube, symptoms resulting from pathological processes altogether different from these. The picture resulting is indistinct, blurred; so much so, indeed, that Leube himself says that the diagnosis nervous dyspepsia is a matter of impossibility, while Leyden, who believes that it can be made, admits that it is possible only in this way: When you have treated a patient for a considerable length of time and cannot arrive at a clear conclusion as to his case, you may call it nervous dyspepsia.

The object of all classification and grouping together of objects and phenomena that present themselves to us being that we may the better recognize and the more quickly grasp the origin, the nature, the relationship to others of a given object or phenomenon, it is, *a priori*, necessary that such group or class shall have certain fixed landmarks, certain traits, certain characteristics, by which a group or class can be recognized, and by which it can be distinguished from another and different group. In so far as medicine is concerned, it will certainly be admitted that any classification that does not convey to the mind any distinct idea as to the etiology, pathology, *modus curandi* of the group, that does not furnish us with characteristic traits by which such a group can be recognized, cannot at all be regarded as a classification, in fact is no classification, nothing more than what I designated it at the outset—a jumble.

To Leyden belongs the credit of being the first to fix a limit to this apparently boundless and chaotic category. It is well known to all, in fact, a rather ancient usage, that when in speaking of diseases we make

[1] Deutsch. Arch. f. kl. Med., Bd. 23, 1879.

[1] Verhandl. d. Congresses f. innere Med., 1884.
[2] Ibid., Remarks of Senator.
[3] Volkmann's klin. Samml., 223.
[4] Burkart: Zur pathologie d. Neurasth. gastrica (dyspepsia nervosa), Bonn, 1882.
[5] Verdanungskr., vol. ii., et Verhandl. d. Congr. f. in. Med., 1884.
[6] Berliner klin. Wochensch., No. 30, 1885.
[7] Zeitschr. f. kl. Med., Bd. 17, 1890.
[8] Traité des Maladies de l'Estomac, 1893.

use of the qualifying term nervous in conjunction with the name of any particular malady, we mean to describe a complex of symptoms for which we cannot account by any anatomical changes in the organs of the body visible to the naked eye or demonstrable with the microscope. On this basis, which he says is correct and can be accepted by us, he excludes from the group of nervous dyspepsia all those morbid conditions of the stomach which, though they may be chiefly due to the nerves, are connected with anatomical processes in the nerves (sympathetic included), or can with great probability be referred to such. There are thus excluded from the category of nervous dyspepsia the *crises gastriques* of tabes. The affection of the stomach in morbus Addisonii is most likely dependent on some change in the nerve tissues, and must also be excluded.[1] Upon this same ground we are fully justified in excluding the reflex gastric disturbances due to pregnancy. Whether there is any direct lesion of the nerves in these cases has not yet been sufficiently determined. Jürgens found in a case of hyperemesis gravidarum total degeneration of the plexus of Meissner and of that of Auerbach.[2] Be this as it may, this is positive and beyond question, that we have an anatomical change in a certain organ, physiological, it is true, that must in some manner affect the nerves thereof.[3] Certainly the dyspepsias concomitant with diseases of the female genital tract are dependent upon anatomical processes which involve, more or less, the terminal nerve-filaments of the various organs.

Furthermore, the well-known rule or usage referred to by Leyden has greater scope, indeed, than he has set for it, and when we use the qualifying term nervous, we mean that no structural changes can be found to account for the symptoms presented, not alone in the solid tissues, but also in the blood. This is right; we know that in diseases of the blood the whole organism is more or less affected; that, in fact, changes in the anatomical constitution of the blood are equivalent, in so far as the production of morbid phenomena is concerned, to anatomical changes in the solid tissues. We must, therefore, exclude the dyspepsias of anæmia, leucocythæmia, etc. There is the further reason for this exclusion, that they cannot be said to be absolutely dependent upon the nervous system. The secretion of the various organs is derived from the blood, and when this latter is at fault, the former must be defective, and impairment of function naturally results.[4]

At the present day, neurasthenia is a well-established morbid entity, with certain definite and characteristic symptoms. It is also well known, and was pointed out by Beard[5] long ago, that, like other organs of the body, the stomach may be implicated, or even that the symptoms presented by it may be the chief phenomena in a given case of neurasthenia. Now, it is certainly more than needless, nay, it only tends to confusion, to create a separate group and call it nervous dyspepsia, which may mean something else, when what we really want understood thereby are the gastric disturbances of neurasthenic or hysterical individuals. Surely the contention of Burkart and of Ewald, as already mentioned, is more than justified, and the stricture of Rossbach cannot be gainsaid.[6] There is still further reason for excluding the dyspeptic complications of neurasthenia or hysteria. It is a generally admitted fact, as can be readily learned from the writings upon this topic, and I can affirm it from personal observation, that in the dyspepsias of neurasthenia or hysteria, the stomach requires no attention on the part of the physician; the neurasthenia only, the faulty condition of the general nervous system, need be treated. When this is improved, the dyspepsia will be better; when the general nervous system has recovered its normal tone, the dyspepsia is cured. It is thus very evident that these gastric symptoms are but part and parcel of the neurasthenia, and not the expression of an idiopathic affection of the stomach. Such clinical evidence is of importance in the study of the natural history of obscure ailments, and cannot be disregarded.[1]

The question that now presents itself is very naturally this: What is nervous dyspepsia? To answer this is the object of this paper, and for the purpose of greater lucidity I shall describe to you what my experience and study have led me to regard as nervous dyspepsia, after the method that has become classic in the description of disease.

Keeping in mind the limitations set forth above, there results to us as a definition of the disease the following: Nervous dyspepsia is an ailment of the stomach without any definite and fixed pathological or anatomico-pathological characteristics, dependent solely upon the nerves of the stomach. The stomach is primarily affected. If any symptoms on the part of the general nervous system present themselves, they are the consequences of an irritation proceeding from the stomach, and are therefore but secondary manifestations. The treatment must be directed to the stomach; only in that way can the disease be quickly and surely relieved.

Symptomatology.—There is no nausea. There is no vomiting, usually. There is generally no bad taste in the mouth. The tongue, on rising in the morning, is covered with a thin white coat; this coating looks as if saliva had been brushed over the tongue—not like the coating of fever; it is transparent, and the red color of the tongue beneath can be clearly seen through it. There may or may not be elongated papillæ at the tip; in the majority of cases that came under my observation they were to be seen. In fact, they were most frequently seen in this, very rarely in the other forms of gastric trouble. At times a little blister will be found on the tip or on the lateral border of the tongue; it is more frequently seen on the tip.

The patient complains of a lack of hunger, but he eats nevertheless. His food, while eating, tastes good to him, and, once started, he can eat as well as the next man; when he stops, however, then his misery begins. He has a feeling of fulness in his stomach; it feels as if it were distended. Occasionally, but more rarely, there is a sense of weight in the epigastrium, a feeling of oppression.

He has eructations, and these are usually followed by a feeling of relief which lasts but a very short time—a few minutes. This belching, repeated at intervals more or less long, continues for an hour and a half to two hours. It is very different from the eructations observed in hysterical patients, who belch almost continually both before and after eating, and in whom the eructations come out in rapid discharges like the continuous cracking of a whip-cord. Moreover, in the hysterical the eructation is not attended by any feeling of relief.

But the most unpleasant in the whole train of symptoms is this one, which is perhaps best described as a condition of general irritability. Some of my patients have described it as a state in which they feel like the proverbial Celt who is just aching to have somebody tread on the tails of his coat; they would like to have a row with somebody; they would fight with the whole world. Others have said that they feel as if they just want to be let alone with their stomach; anything and everything irritates them; a question addressed to them; a question asked and a prompt or satisfactory answer not at once forthcoming; loud talking; singing; music. Some describe it as a queer sensation in the head. It is not a headache; it is not a pain, by any means; it is a feeling of heaviness of the head, of weariness of the

[1] Berlin. kl. Wochenschr., loc. cit.
[2] Verhandl. d. Congr. f. inn. Med., loc. cit.
[3] American System of Obstetrics, vol. ii.
[4] Nervous Exhaustion (Neurasthenia), by George M. Beard, A.M., M.D.
[5] Schiff: Leçons sur la Physiologie de la Digestion, vol. ii., leçon 34.
[6] Leyden: Berliner kl. Wochenschrift, loc. cit.

[1] Verhandl., etc., loc. cit.

brain ; at times a sensation as if the brain were irritable. Sometimes the irritability, the unpleasant sensations in the head, may so preponderate that the patient loses sight of his stomach. This feeling of irritability continues for an hour and a half to two, occasionally even to three hours ; then, as the distress in the stomach abates, it also disappears.[1]

Two to three, or even four, hours after meals, according to the quantity and character of the food that the patients have eaten, after the symptoms just described have to a great extent abated, the patients experience a gnawing feeling, a craving sensation, in the stomach, which is relieved by food taken, but is again followed by the feeling of distress and irritability. It is not a *heisshunger*, a bulimia, as described by Leyden, for the patients have no hunger, and a little food, very little indeed, as I have found—a tablespoonful or two of milk, even a tablespoonful or two of cold water—will completely allay it, with the advantage that no distress will follow. There is no thirst. The bowels are generally undisturbed, *i.e.*, they retain their former habit. Where the psyche of the patients becomes so impressed by their ailment that they give up, in a measure, their usual habits of exercise, the bowels, which were previously regular, will bec ome costive.

Patients generally follow their usual pursuits ; even women who have onerous household duties to perform are able to do so, and do so despite a certain amount of physical and psychical depression. Some patients, more particularly females, whose habitual diet is a rather vicious one, *e.g.*, the typical American menus, if the disease runs untreated for any length of time, or if not properly treated, will become hypochondriacal, melancholy, and lose all interest in their usual activities.

The majority of this class of patients are incapable of doing any mental work, studying, prolonged thinking ; their brain tires very easily and quickly ; light, amusing novels, such as are designated in German "Lustige Erzählungen," novels that require no mental effort, are read with pleasure and even with benefit, even by those who complain of great brain weariness.

The sleep is always undisturbed. Only exceptionally, and then only in cases of long standing, is there any complaint of inability to sleep. Despite the fact that the patients take food in sufficient quantities, they emaciate notably. I have observed that, as a rule, these patients cannot tolerate strong alcoholic liquors ; brandy or whiskey, if taken, is almost immediately rejected. Sometimes even milder drinks, as wines, are not well borne. There is no tenderness on pressure on the pit of the stomach. Flatulence has been counted among the symptoms of nervous dyspepsia. In my experience I have found flatulence in catarrhs of the stomach and in intestinal indigestions, but never in nervous dyspepsia, where the stomach alone is affected. Congestions to the head I have never observed. It may be that the feeling of weight in the head, the inability to do mental work, have been regarded as due to congestion, or perhaps the flush of the neurasthenic has been mistaken therefor.

Etiology.—Two etiological factors have stood forth prominently in the cases that have come under my observation, and it has always been the one or the other to which the patients have ascribed their ills, viz. : 1, mental shock ; 2, tobacco-smoking.

Mental Shock.—It is not necessary for me to go into details here as to how shock affects the organism. That it does so is well known. To this one point, however, I would call your attention, namely, that the shock may have either a general or a limited effect ; that in the one instance a neurasthenia may be developed, and in the other a nervous dyspepsia. I do this for the reason that mental shock is set down as one of the principal etiological factors of neurasthenia, and hence a wrong inference might be drawn as to the nature of the cases observed by me. In neurasthenia the whole nervous system is affected as a result of the shock, and with it the nerves of the stomach. The patient continues under the depressing influence of the shock ; he does not rally therefrom. It may be exemplified thus : If it has been a financial shock that the patient has suffered, he will be constantly bewailing the loss of the money ; will have gloomy forebodings as to his future business prospects, as to the future of his family. If it has been a death, he will appear inconsolable ; he will talk about the deceased at all times ; will weep and lament ; be gloomy and given to dark and desponding thoughts. In nervous dyspepsia the patient recovers quickly from the shock. He is not depressed any more by the pecuniary loss ; his grief over the death of a dear one is assuaged, and his system would be at its normal were it not for his stomach. Upon this organ, which, as is well known and as has been often set forth, is readily affected by psychic influences, the whole force of the shock seems to have been expended ; it continues in a morbid state.

The differences here pointed out are clearly demonstrated by the conduct of the patients themselves ; thus, while in the first case the patient will not be able, in his own judgment, to follow his usual avocation, will sit around and mope bewailing his lot and complaining of a thousand ills, in the second instance the patient will follow his usual pursuits, and only when the gastric trouble has long continued and his system has broken down, as shown by the emaciation, will there be noted a disinclination to attend to business, to accomplish the usual duties, a depression, a tendency to melancholia.

Tobacco-Smoking.—I do not at all refer here to those instances that are occasionally seen by almost every physician, in which from the large quantity of tobacco consumed in one way or another the system has become intoxicated, and gastric disorder, as one of the manifestations of such intoxication, appears. Though this latter is also a result of a morbid state of the nervous system, I exclude it nevertheless from the category of nervous dyspepsia for the reasons already given above, that it is but part and parcel of a distinct general morbid state, and that for its relief no special treatment of the stomach is requisite. The cases I refer to are about as follows : The patient is a moderate smoker ; he smokes four to six cigars a day, and never, as he believes, suffers in any way therefrom. But his stomach troubles him. He eats a good dinner, and, feeling good, naturally wants a cigar and gets it. After he has smoked one-third, one-half of the cigar, he has uneasy sensations in the epigastrium ; his food, which he did not feel before, now lays like lead in his stomach ; he wants to belch and feels that a good eructation would give him relief. Occasionally there is pyrosis. He has that feeling of general irritability that is so difficult to describe and which finds its most excellent illustration, according to his own history, in Carlyle. Some have a feeling of dizziness, of weight, in the head, as has been described above ; they are unable to think ; they feel as if they cannot attend to their business properly. After a few hours the distress is allayed, to return again with the after-supper cigar.

Heredity.—In a few of the cases coming under my observation of the class produced by mental shock, there was a history of a father or mother having at one time or another suffered from gastric derangement. However, the percentage is too small to attach much importance thereto. Some of the very worst cases had no such history.

Pathology.—It is a rather difficult matter to describe the pathological process that is active in nervous dyspepsia, a disease without any anatomico-pathological basis. Leube held that, with the exception of the nervous phenomena, the act of digestion was perfectly

[1] I have observed this same symptom quite frequently in dyspeptic infants. I shall recur to this more in detail on another occasion.

normal. He arrived at this conclusion from the fact that on examining the stomachs of such patients seven hours after a test-meal they were found empty.[1] Ewald and Leyden hold that this is not sufficient evidence to prove that the digestion proceeds normally.[2] Herzog, who has more recently studied the chemismus, found the conditions rather variable. In some cases there was hyperacidity, in others subacidity, and again in others the acidity was normal. These varied conditions were associated with diverse conditions of the motility.[3]

In the cases reported by Boas[4] in his recent book, there is a similar absence of anything like a positively abnormal condition of the chemismus. In my own experience I have found that these patients were always able to digest nitrogeneous food well, in fact that it agreed with them better than substances of the other alimentary groups. This clearly proves that a sufficient amount of HCl and of pepsin were present in the gastric secretion. In the last two cases that I had occasion to examine more fully, in accordance with modern methods, I found the total acidity rather high, though still within the normal limits as determined by Ewald and Boas.[5] The same variability has been found in the motor power of the stomach. Leube[6] holds it to be normal. Herzog[7] has found it both subnormal and normal. Bouveret[8] maintains that there is atony of the whole gastro-intestinal tract. It must be borne in mind, however, that Herzog and Bouveret refer chiefly to cases of neurasthenia in which there is a general depression of muscular irritability. So far as my own experience goes I have never found any atony of the stomach, and I have most carefully examined for it. Judging, however, from what I have experienced in my own person, having suffered from the disease for quite a time, I should say that at the outset, immediately after the patient had finished eating, there seems to be an inhibition of all muscular action of the stomach, as if it were paralyzed. This inhibition lasts for a longer or shorter period—half an hour to an hour and a half—then ceases, and it has seemed to me that with the resumption of muscular activity the general phenomena begin to abate. In some of the cases coming under my observation, especially in those due to tobacco-smoking, I judged from the description given me that a like condition was produced in them.

Upon this point there is no disagreement that in nervous dyspepsia there is nothing abnormal in the chemismus, and likewise the motor power cannot be said to be to any degree impaired. Wherein, then, lies the difficulty? All else being excluded, we naturally look to the nervous system.

It can be assumed with a great deal of certainty that the sensory nerve of the stomach, the vagus, is in a state of hypersensitiveness, of exaggerated irritability, which manifests itself upon the ingestion of food by the pressure thus produced upon the ultimate nerve-filaments. The sense of weight, the feeling of pressure, the uneasy sensations in the stomach, the fact that food that taxes the stomach much causes greater distress than such as does not, all point plainly thereto. This irritation is transmitted to the nerve-centre, thence to other cerebral centres, and we have as a resulting manifestation the general irritability already described, and occasionally certain other phenomena which more properly pertain to neurasthenia or hysteria (hyperæsthesias, feeling of heat and cold as in malaria, fibrillary tremor of tongue, feeling of palpitation, etc., globus, œsophagismus, hysterical ructus, paræsthesias, etc.). It can be very readily understood how, if the true character of the ailment remain unrecognized, or if it be not properly treated, the irritability may wax so great as to cause emesis, so that the greater part of the food is rejected almost as soon as taken or shortly thereafter. It also explains why these stomachs do not tolerate strong alcoholic liquors.

[1] Deutsch. Archiv f. kl. Med., Bd. 23. [2] Loc. cit.
[3] Zeitschr. f. kl. Med., Bd. 17.
[4] Diagnostik u. Therapie der Magenkr., Th. 2.
[5] Ibid., Th. i. [6] Loc. cit. [7] Loc. cit. [8] Loc. cit.

I have already stated that I believe, judging from my own personal sensations and confirmed by those of others, that an inhibition of all muscular activity of the stomach occurs at once upon the close of the meal. If such an arrest does take place it naturally involves a closure of the pyloric orifice. This would account for the feeling of distention of the stomach—the patients call it bloated—and for the relief afforded by belching; the gases produced in the process of digestion not being able to escape through the pyloric orifice distend the stomach and cause distress, and their discharge by eructation naturally brings relief. Upon the conditions already set forth, the occurrence of such a temporary arrest of muscular activity is very probable and not difficult of explanation. The irritation travelling through the vagi to the brain-centres, may have an effect upon the stomach similar to that which we see produced upon the heart when an interrupted current is sent through said nerve.[1] This irritability is the sum and substance of the pathology of nervous dyspepsia.

This view was, with some modifications, advanced by Leube in his first communication on this subject,[2] though he seems to have receded therefrom in his subsequent address on this same topic before the Congress für innere Medizin, 1883.

As to the causes of this hyperirritability, they are, of course, the etiological factors already named. As to mental shock, although we do not know by what manner of process it acts upon the human system, we do know that it does so act, and that it is through the nervous system that its influence is made manifest. The effect appears to be rather varied in its nature. It may show itself in disturbed function of one or the other organ.

The sudden disappearance of all hunger, of all appetite, upon the receipt of evil tidings, and the marvellous rapidity with which good news will change a person who has been depressed for months, is a matter of general knowledge. Numerous observations are extant of its influence upon the liver, as to disturbance of the biliary and of the glycogenic functions.[3] It may show itself by abnormal states of the nervous system, hysteria, neurasthenia, melancholia, etc. It is, therefore, not at all far-fetched to assume that a state of hyperirritability of the gastric nerves should have been produced thereby, more especially as the stomach seems to be the organ upon which the effect of the shock was chiefly expended.

That tobacco-smoking may affect the stomach has long been known. Without laying any especial stress upon the experimental results obtained in animals, the experiments partaking more of the nature of acute poisonings, I would say this much from careful clinical observation: In some cases in which the digestion was of normal character, smoking a cigar shortly after a full meal gave rise to the sense of weight, of fulness, of oppression; it seemed (and this I have myself experienced) as if the digestive process had been at once arrested; there is the same feeling as if the muscular activity of the organ had been inhibited, and as a result thereof the fulness, the distention. Smoking several hours after full meals can produce a like effect, plus, in some individuals, a pyrosis. There is secreted, under its influence, an acid fluid which causes a burning sensation in the pit of the stomach, and if regurgitated will set the teeth on edge. Smoking upon very light meals, after coffee, will with some persons cause pyrosis.[4] Smoking immediately before meals may destroy the hunger, banish all appetite; if the person eats nevertheless, he will most likely have a whole train of unpleasant sensations. I have known smoking to produce cardialgia. As to its action upon the nervous system, I

[1] M. Foster: Human Physiology, 1880.
[2] Deutsch. Arch. f. kl. Med. und Verh. d. Congr. f. in. Med., loc. cit.
[3] Tuke: The Influence of the Mind upon the Body.
[4] That smoking may excite pyrosis is mentioned in Der Tabak u. seine Einwirkung, Ludwig Jankau, München, 1849. Richardson: Diseases of Modern Life.

have observed, in connection with the dyspeptic phenomena the general irritability already described. I have noted dizziness, vertiginous sensations, and general tremor. Schotten[1] reports that he has observed hyperæsthesia of various nerve-tracts produced by smoking; he has also noted the vertiginous feeling and a hyperæsthesia psychica; disturbances of motility, muscular spasm, tremor, etc. Gilbert reports a case of what he calls "hystérie tabagique."[2] Strümpell cites tobacco-smoking as one of the etiological factors of various maladies of the nervous system.[3] That tobacco-smoking has a special predilection for the vagus nerve, is shown by the many cases of dyspepsia and the striking cases of tachycardia, reported by numerous authors, and a number of which I have myself seen. It can therefore, in view of all this, be assumed, and the assumption is fully justified, that a state of hyperirritability of the sensory nerve of the stomach has been developed, and that the pathological process is the same here as already described. The assumption is fully borne out by the symptomatology, and furthermore all the manifestations described are understood and accounted for.

Diagnosis.—Although, as already stated, both Leube and Leyden held that it was impossible to make a diagnosis of nervous dyspepsia, I firmly believe that, within the limits set down, and bearing in mind the nature of the ailment and its symptomatology as already described, there can be no difficulty in making an exact diagnosis, and from the outset. With the present methods of examination and our advanced knowledge of gastric pathology, it is almost impossible, I hold, to mistake nervous dyspepsia for ulcer of the stomach or gastric catarrh, and *vice versa*. One, two, at most three, careful examinations with acquisition of the previous history will soon set us right. There is therefore no necessity for going into detail as to the differential diagnosis between them. The only form of gastric disturbance with which it can be confounded is what, with Burkart and Ewald, I would call neurasthenia gastrica, and from this it can be differentiated by the following and divergent characteristics:

Neurasthenia Gastrica.	Nervous Dyspepsia.
The patient feels bad when his stomach is empty; after he has eaten he feels much better, much stronger.	The patient is at his worst after eating.
He usually does not care to eat; his food, he says, has no taste for him.	He wants to eat; he likes to eat—though he is not hungry—for his food tastes good to him.
If he has any distress after eating it can be banished at once by diverting his mind to some other matter.	It is possible to a certain extent here, but the diversion must be of the greatest interest so as to occupy his whole attention, and must do so for at least two hours.
Frequently bulimia.	Never.
There is generally more or less complaint made of the bowels; sometimes it is a girdle feeling (somewhat like that of tabes); soreness, weight, pains, etc.; a complication of neurasthenia intestinalis with neurasthenia gastrica.	Patients never complain of the bowels in the way described. The only complaint they occasionally make is that they are constipated.
Despite his assertions that he has a bad stomach since a long time, and that he must be very careful in what he eats and eat but little, he generally eats well and usually maintains his weight. From external appearances nobody can believe his stomach at fault. Occasionally his statements are true; he eats but little and loses flesh.	The patient loses flesh and if the disease continues for any length of time he emaciates markedly.
The sleep is disturbed; it is interrupted. He dozes and feels somebody touch him, hears somebody speak to him, feels as if he were falling into an abyss, and wakes up with a start and cannot go to sleep again.[1] Or his bed will not let him sleep.[2]	Sleep is usually undisturbed. If disturbed it is only in this way: the patient is sleepless. When he once goes to sleep, however, he sleeps soundly.
Patients have sensations of heat and cold, so that sometimes they believe that they are suffering from malaria.	
The patients are depressed and languid; they cannot follow their vocation, cannot attend to their duties.	Patients can attend to their duties, and do so. It is only just after meals, when the distress and irritability are at their maximum, that the dyspeptic has any feelings akin to those of the neurasthenic.
The patient has a thousand and one ailments besides that of his stomach; he has headaches, he has pains in his head, pains in his back, soreness of the shins, etc.	He complains of nothing but his stomach. Sometimes the irritability described may preponderate in the patient's estimation, so that he will lose sight of his stomach, but a few questions will bring him back thereto.

[1] Jankau: Loc. cit., Virchow's Archiv, xliv., 1866.
[2] Jankau: Loc. cit., Gaz. des Hôpitaux, lxii., 1889.
[3] Specielle Pathologie, etc.

In a word, in neurasthenia gastrica more or less of the characteristic features of neurasthenia are always present.

Prognosis and Duration.—The prognosis is set down by eminent writers as very unfavorable; taking my own experience into consideration, and it has been sufficiently large to justify my expressing an opinion, I must say that the prognosis of nervous dyspepsia, as described here, is decidedly a favorable one; even in cases of long standing, if the proper methods be employed recovery will ensue, and in comparatively short time, as can be seen from Case I. In all my experience I have had but one case of nervous dyspepsia that I failed to relieve, and this was a person of gluttonous habits who informed me that she would never submit to any dietary regulations and deprivations.

As to duration, that varies. The trouble cannot be said to have a fixed limit of time, in the sense that it runs its course and then abates, as for instance typhoid fever; the duration of nervous dyspepsia is dependent upon the following circumstances: whether the true nature thereof is promptly recognized by the physician; whether it is properly treated; whether the patient has sufficient self-control to observe the strict dietary regulations necessary to his recovery. Thus it will be seen that in Cases I. and VI. the disease lasted a long time, though the duration was short after the proper treatment was instituted; Cases III. and V., which came very soon under observation and were at once appropriately treated, were of rather short duration.

Complications.—I have never observed any, except a slight eczema on the chin, which requires no especial attention and which disappears as soon as the stomach is better.

Sequelæ.—It has been said by good authority that nervous dyspepsia may result in severe and even dangerous forms of gastric disease. So far as my own experience goes, I have never observed any of these dangerous sequelæ; even cases of very long standing have made a comparatively quick and good recovery. I believe, however, that, given a predisposition thereto, insanity of the melancholy type may result. This belief is not based upon any personal knowledge, but solely upon the observation, rather frequently made, that these patients incline to melancholia, and from reports of insane asylums.

Case I.—Mrs. K——, aged thirty, consulted me in Cincinnati, October 25, 1885. She walked very feebly into my office, dropped into a chair, and closed her eyes as if she were about to faint. I ran quickly for some Hoffman's anodyne, ordered some cold water to be brought, etc. The lady, however, soon opened her eyes and said I need not feel alarmed, that she was not going to faint; continuing, in a very low tone of voice,

[1] See Lowenfeld, Pathologie u. Therapie der Neurasthenie u. Hysterie.
[2] I mean by this that though he be ever so sleepy while sitting up, sleep flies from him as soon as he lies down in his bed.

so low that I had to lean forward in my chair to catch what she had to say, she informed me that she really thought it useless to consult any more doctors as she knew that she was in the last stages of consumption, and that all efforts to cure her would be futile. She had come only because her husband had insisted that she should consultme.

History: Mrs. K—— is from New York City, having lived there for over seven years, from the time of her marriage up to within two weeks of the date given, when she joined her husband in Cincinnati, where he had established himself in business. She has been married seven and a half years, but is as yet childless. Already in her maidenhood she was occasionally troubled by her stomach; occasional attacks that would last but a short time and disappear. As to the nature of these early attacks I could learn nothing definite. She seemed to have no distinct ideas either as to the symptoms that were produced, as to the length of time they lasted, or as to the length of interval at which they appeared. After marriage the attacks came on more frequently and grew more severe. During this illness, which has lasted the whole period of her married life, she consulted some of the most reputable physicians in this city. She consulted first the well-known general practitioners, who all advised the free use of alcoholic stimulants, brandies, wines, etc., good nutritious diet, and plenty of it. The opinion was expressed that she was either on the verge or already affected with phthisis pulmonalis. She was advised not to sleep on feather-beds, to avoid dust, etc. Later on, upon the advice of relatives, she consulted several eminent gynecologists, the female relatives having been of the opinion that her stomach trouble was due to some uterine complaint or to her sterility. She saw some quite eminent men, whom she named to me, and heard various opinions as to the nature of her trouble and as to what she might expect. Upon this, however, they were agreed, that she would have to undergo a serious operation, as all her ailments were due, according to one to the uterus, according to another to the ovaries Some thought that she might become fecund after prolonged treatment, others declared that she was permanently sterile. She wandered about thus from one physician to another without being benefited. She consumed, and still consumes, large quantities of alcoholic liquors, two to three bottles of brandy per week, and four to five bottles of good Rhine wine. The liquor bills are so large that Mr. K—— says they keep him poor. She takes milk freely in the shape of milk-punch and otherwise. At the outset of her sickness she vomited very rarely, but since several years she vomits almost every time that she takes food; liquors especially are quickly rejected, almost as soon as swallowed.

Status Præsens.—Mrs. K—— is a tall woman, five feet seven inches in height; large-boned; she is extremely emaciated, does not weigh more than 85 to 90 pounds; her face is thin and peaky; the skin is dry and has a dark-yellow teint; her cheek-bones stand out prominently; her eyes are unnaturally large and have large rings around them; her lips are thin and pale; when she speaks her gums are entirely visible, they are very red in color and soggy in appearance, very much like what is seen in scurvy; her teeth are bad. She is so weak that she can hardly drag herself along.

Examination.—Lungs perfectly sound, although the respiratory murmurs are feeble. Heart normal, heart's action very weak, as in greatly enfeebled persons. Pulse 65, weak and easily compressible.

Abdomen: As she expressed herself, she has no belly at all; the abdomen presents a scaphoid appearance, the walls having fallen in so as almost to lie upon the vertebral column. A careful examination revealed nothing abnormal. The epigastric region was carefully palpated throughout its whole extent; nothing was discovered; no pain was elicited on pressure. As she had already seen so many gynecologists and they had differed in opinion, I concluded to dispense with an examination of the genital tract, as evidently not much would be learned therefrom. The tongue presented a very thin white coat, and upon the tip a few elongated papillæ were noted. Bad taste in the mouth. While she eats the food tastes good to her, and she can eat as much as anybody; but when she ceases eating then comes that miserable feeling of weight, a feeling of oppression which is momentarily relieved by an eructation; then comes an uneasiness, a restlessness over the whole body; this all continues until the greater portion of the food is vomited. The emesis is hastened by the brandy or whiskey which she generally takes with the view of relief from the distressful symptoms recounted. There is no globus, no headache. The depression that exists is due to the belief impressed upon her by physicians that she is afflicted with an incurable disease. There is some tenderness of the shin-bones, there is some rachialgia; this is, however, undoubtedly due to the fact that the muscles of the back are greatly wasted, and that it requires great efforts on the part of the patient to hold herself erect. Her feet are nothing more than skin and bone, and consequently walking in the thin-soled shoes worn by ladies is exceedingly painful to her. An examination of the stomach contents was left in abeyance, as the general condition of the patient would not warrant it. The question of the presence or absence of HCl in the gastric juice I would determine by dietary methods. She sleeps badly, that is, she sleeps only in short snatches; she cannot sleep two hours at a stretch.

Despite her marked emaciation and the greatly debilitated condition of the patient, I put her upon a rigorously restricted diet in accordance with the rules I had formulated for myself in the treatment of such cases. Medication was but trivial. The whole treatment was a local one and directed solely to the stomach.

December 2, 1885.—The treatment has been perseveringly followed; the patient feels much better. She has improved greatly in her general appearance, and her face and figure both show that she is gaining in flesh. She is much easier after meals—in fact, the previous unpleasant sensations after eating are now almost altogether wanting. She sleeps well, stools (which I always direct to be carefully inspected) are normal. About this time she requested that I make some change in her diet, and I permitted the use of chopped raw beef in place of the meat that she had been taking till now. Some additional change was also made in her drink.

December 20th.—Patient informs me that she has seen some white bands in her stool. She was directed to bring some for examination. They were the proglottidæ of the tænia medio-canellata. The raw beef was immediately discontinued, but owing to her still weak condition I did nothing toward expelling the worm. About the first of February, the patient having gained greatly in strength, I prescribed an emulsion of pumpkin seed, followed this up with some kousso, and she expelled one piece about twenty inches long, and the following day a second piece ten inches long. The proglottidæ showed that the worm was still young. No more was seen after this.

March 15, 1886.—The patient is doing very well; she is much fuller in the face, rounding out in the abdomen, and altogether has gained considerably in flesh. At the end of April, 1886, Mrs. K—— informed me that she was pregnant, and in the beginning of February, 1887, she was delivered of a fine, healthy boy. Mrs. K—— has since continued to do her duty as a good wife, and has presented her husband with four healthy children. She is now living in a large city of the State of Pennsylvania, and is in good health and condition.

Case II.—Mrs. R——, aged fifty; woman of five feet

five inches in height; well built; of good muscular development. Mother of four children—two boys and two girls, all grown. She has a prolapsed uterus, for which she wears a ring pessary which is removed once a year, and not returned for eight to ten days, in which time she keeps her bed. She has a very mobile, nervous temperament. She has had many struggles in this life on account of a husband who was given to spendthriftness; and a son, who was a good-for-nothing and, still worse, caused her great grief. She is generally a lively woman, loves to go out and visit, and to enjoy some of the good things of the world. She is a very active woman, attends to her whole household, doing her own work, cooking, cleaning, etc.

In January, 1889, I was called to attend Mrs. R—— for an acute laryngitis. At this time she was also under treatment with a gynecologist for the prolapsed uterus. I treated her for about a week, and the case not progressing satisfactorily I advised her that it would be best for her to place herself in the care of a throat specialist and left the case. My advice was not followed; the gynecologist treated her laryngitis; she used liniments that blistered her neck and kept it raw for nearly six weeks. She was confined absolutely to her room for four full weeks. About March 1st I was called again. I found her very much depressed, melancholy, given to tears, to dark broodings, etc. Not being able to elicit much, I took it for granted without further examination that she was hysterical and told her so, and prescribed some tincture of valerian. Her confidence in my medical skill was now greatly weakened, and upon the advice of friends she placed herself in the care of a quite eminent neurologist. She was medicated, treated with galvanism, with static electricity, shock to the spine, etc. She was ordered to eat plenty of good nutritious food.

About the early part of June I was called again—at this time I did not know that she had been in the hands of a nerve specialist; I did not learn this until some time after the patient had fully recovered. I found her as I had seen her before, melancholy, despondent; her face expressive of gloomy thoughts and dark forebodings; she cried much and readily. She spent most of her time on a chair or on the lounge, and appeared to have lost all energy for work and all desire for dress. Her pulse was slow and weak. She slept badly, she could not go to sleep on account of the gloomy thoughts that troubled her. She was losing flesh rapidly, and was very much thinner than when I had seen her in March. She ate fairly well—she had always been a hearty eater. Bowels sluggish. Questioned more closely, she informed me that at the time when she was confined to her room something had occurred that had troubled her greatly in her mind, had called back the business reverses of her husband—she was the financial manager of the family—and that her appetite, which had already become poor from the confinement, was then altogether lost. She ate, however, as usual, perhaps even more frequently, as she felt weak and wanted to gain strength. After eating she felt badly; she had a sense of oppression and weight in the pit of her stomach; she wanted to belch, and belching always gave her a little relief. She always felt more despondent after eating; she was very irritable then and could not bear to have anybody talk to her. This fact that she was always at her worst after meals was also observed by the daughter, a very intelligent and cultivated young lady.

A physical examination revealed nothing; the chemismus was not investigated, as the patient would not allow it. I did not insist, for to me the diagnosis was clear. That the chemismus must be of normal character I judged by the fact that, though the patient took large quantities of food, there was no dilatation and no diarrhœa. The tongue was coated with a white coat, looking like a layer of saliva.

The plan of treatment that had given such an excellent result in Case I. was prescribed for Mrs. R——. In addition to this I directed that she resume her previous habits of exercise, working about the house, going out shopping, or promenading. To allay the gnawing sensation, which she felt some hours after meals, she must take nothing but two table-spoonfuls of milk, or the same quantity of ice-water.

She observed the rules and regulations carefully for two weeks and was doing very nicely, being greatly improved physically and psychically, when she concluded that she might allow herself greater liberties in her diet. This over-indulgence brought its own punishment with it. There was an immediate return of the previous distressing sensations; she became despondent again; in short, she relapsed into her former state. I was called to see her. Surmising the cause of her relapse, I questioned her whether she had not disregarded her dietary regulations; she denied absolutely that she had done so, but her daughter happened to come into the room just then, and to my question replied that her mother had been grossly disobedient; that a constant watch had to be kept upon her to make her observe the rules of treatment; that on that day, the daughter being compélled to go out, the mother took advantage of her absence and ate what she called a square meal. I gave the daughter the necessary directions; the mother I lectured upon the folly of her conduct, painted in dark colors what would be the result of following her own bent, and in bright tints the reward of obedience. In two days she was better.

July 5, 1889.—She continues to improve rapidly. The unpleasant sensations consequent upon eating have almost entirely disappeared; she is in good spirits and attends to her duties as before; she sleeps well. Her face shows a gain in flesh. Treatment, with some slight modifications, to be continued.

August 1st.—Patient is doing excellently; she is regaining flesh and strength rapidly. The nervous phenomena have disappeared entirely. With some advice as to her diet and some other things pertaining to the *modus vivendi* for the next few months, I discharged her cured. She has continued in good health, and has had no further trouble with her stomach.

Case III.—Miss M——, aged thirty; of ordinary stature, about five feet in height, and rather poor in flesh now. She has always been hale and hearty and of a merry disposition; never knew what it was to have nerves. She is a teacher, and taught school up to within a short time.

October 14, 1882.—Some months ago she had some great trouble, the exact nature of which I could not learn, and since then she has been greatly depressed, melancholy, in fact. She will not go out, and avoids all society. At one time she had pains between the shoulder-blades, but that is gone now. She sleeps well, but only for a few hours. She has no hunger, and therefore does not want to eat; her family, however, insists upon her eating, and when she has once begun to eat she can keep right on, as the food tastes good to her; but when she is through, then she wishes she had not eaten at all. She has then a sense of fulness as if her stomach were distended, a sense of weight in the epigastrium, which is relieved for the moment by an eructation. There is a general uneasiness of the whole body that will not allow her to sit down, but keeps her moving up and down the length of the room. After an hour or two, according to the character of the meal she has taken, she feels somewhat easier, and then she sits down in a corner and mopes and broods and cries. Tongue coated with thin, white, transparent coat; the papillæ about the tip are somewhat elongated. Bowels constipated. Physical examination reveals nothing abnormal. The patient was put upon the treatment usually pursued by me in these cases. In two weeks she was already much better, and in five weeks from the time treatment was instituted, the patient was discharged cured.

CASE IV.—E. R——, aged fifty; man, five feet ten inches in height, broad-shouldered, of excellent physical development generally. A university man of superior attainments. He has led a very active life as a business man, lawyer, justice, and politician in the great Northwest. He is a good liver, drinks moderately, and smokes considerably. In 1870 he became the editor of a large daily paper; he continued in this position till the end of 1874, when he was forced out. He resumed the practice of the law. In 1876, having lost what little he had had, the law practice not remunerative, and the times very stringent, he had a hard struggle and a great deal of mental worry. About the middle of the year he began, for economical reasons, to make his own cigars, and these were very strong. In January, 1877, he sent for me. He complained of unpleasant sensations in his head—an inability to study. No especial desire for food, though he can eat when it is placed before him. After eating he feels very much distressed; he has a sense of weight in his epigastrium; his stomach feels as if it were distended; an eructation gives relief for the moment. Stools regular. Sleeps well. He has lost flesh. Physical examination reveals nothing abnormal. Tongue coated with a thin, white, transparent coat; some elongated papillæ about the tip and edges. As in this case both etiological factors were present, and it was a question in my mind whether one or both had produced the morbid state of the patient, I ordered, besides the usual treatment, absolute rest from mental work; no reading or studying at all; sufficient physical exercise by walking or working in the garden. At the end of four weeks the patient was very much better; at the end of three months he was entirely well and discharged from treatment.

CASE V.—C. H——, aged thirty; man, of ordinary stature, about five feet six inches in height; of ordinary muscular development; light complexion. Drinks moderately, but smokes much. Usually enjoys good health, and is capable of great exertion. He went through a rather protracted siege of typhoid fever lately, but has fully recovered therefrom. He called to consult me in January, 1890. He complained that after eating he had a fulness in the stomach, a sense of weight, a feeling of distention; a voluminous eructation would afford momentary relief. He has a feeling of giddiness in the head; a general irritability comes over him, so that it is almost impossible for him to attend to business. After the disagreeable sensations described have passed, he has a gnawing in the pit of his stomach, for which he takes a little whiskey and soda. The bowels are normal. Sleep is good. He has suffered from these dyspeptic attacks for quite a number of years. I also learned that he was a good liver, liked rich food, and always smoked strong cigars after meals. He feels weak and keeps thin. A physical examination revealed nothing abnormal. I directed him to take a test-breakfast the next morning, and to be at my office an hour thereafter for examination. One hour and twenty minutes after taking the breakfast I removed from his stomach about twenty cubic centimetres of nearly semifluid material. Nothing abnormal in its appearance. The bread was well worked up with the water. Reaction with blue litmus markedly acid. Strong reaction with phoro-glucin-vanilline. I gave him the usual directions for treatment. A week later I saw him again; he was feeling splendidly, never better in his life. Three months later he called again, complaining of the same distressing feelings that had annoyed him before. I taxed him with having violated the rules of living laid down for him, and he acknowledged that he had done so; he had forgotten himself at a supper, and eaten and smoked contrary to his rules. He recovered quickly. He is in splendid condition; has grown strong and stout. He has not been troubled either in his head or in his stomach for more than a year.

CASE VI.—J. W——, aged twenty-two; five feet five inches and a half in height; weight, one hundred and twenty-nine pounds. He has already weighed one hundred and thirty-two pounds. Father living, in good health, aged forty-two. Mother healthy, with the exception of a nervous headache with which she is troubled. She has such an attack once every two weeks, and these last usually one full day, occasionally two days. She is home alone the whole day and worries much. About two years ago she had some trouble with her stomach and bowels; she suffered great pain, but was well again in four days. As a child patient had measles; none of the other maladies of childhood. About eight years ago he had an attack of what the physician called neuralgia of the head; the pain was located in the occiput. He was sick about a week. About this time he became somnambulistic, and walked almost every night; when he did not walk he would shout and raise a rumpus generally. The physician who attended him at the time said that his somnambulism resulted from a disordered stomach; he himself, however, was not at all conscious that his stomach was any way at fault. About seven years ago he had granulated lids; two years ago he was again troubled in this way. He has some hypermetropia and wears glasses. A year ago he had an attack of what was called rheumatic grip; he was confined to his bed for three days; on the first day that he was up his brother was seized with congestion of the brain; his mother coming into the room and finding the boy in that state, gave a succession of screams that frightened him, so that he fell over on his face in a spasm. He did not lose consciousness altogether; he was again confined to his bed for three days, and the doctor who visited him said that he had fever. Twice gonorrhœa; the first time a year ago, the second time five months ago.

About five years ago, one Sunday, in the midst of his dinner he suddenly had a feeling of weight in his stomach, as if lead were lying there. He had to stop eating then and there; shortly thereafter he was seized with cramps in his bowels. This became a sort of habit with him, and he had cramps after every meal; he had to go to stool and then the pain ceased. Sometimes, however, a queer sensation remained for a time. He treated himself with home remedies; he had considerable intervals of freedom from suffering. At the end of a year and a half he was altogether much worse, and concluded to consult a physician. He did so, but was not relieved; he consulted another physician, who ordered him to drink a cup of hot water every morning, and gave him some powders to aid digestion. He drinks beer, but very moderately. He smokes seven cigarettes and one cigar a day. He smokes since his twelfth year. He eats two meals a day. According to what he has been told, he has had catarrh of the stomach for the last ten years.

Present condition: Careful physical examination reveals nothing abnormal. Reflexes normal. Teeth good. Tongue coated with white fur and rather broad; some elongated papillæ at the tip. He has a bitter taste in his mouth. He has no hunger. He has a sense of weight, of oppression in his stomach immediately after eating. He wants to belch; after belching he feels easier for a few minutes. Bowels usually regular. He is down-hearted; out of humor; after eating a feeling of irritability comes over him, so that he would like to pick a fight with any and everybody. This wears off gradually. When his attention is attracted by other matters in which he is greatly interested his dyspeptic phenomena soon disappear. When he wakes up in the morning he feels badly; sometimes it is sharp pain. Stomach shows nothing abnormal; no atony.

August 27, 1894.—Withdrew from patient's stomach about 50 c.c. of residue an hour and fifteen minutes after a Boas test-breakfast.

Examination: No odor. Appearance as it should be; the bread very well worked up. (Patient is not accustomed to drinking water, not even in summer.)

Markedly acid to blue litmus. Strong reaction to Congo-red. Strong reaction with phoro-glucin-vanilline ; likewise with resorcine. Total acidity, biuret reaction with $\frac{1}{10}$ normal KH solution 7.1 (for 10 c.c.). Calculated for free HCl, .25915.

An examination for pepsine was not deemed necessary, the abundance of the HCl present indicating with certainty the presence of pepsine.

None of the special tests for the motility of the stomach were made, for the reason that my patient could not spare the time. However, I consider that the examination for atony, made after the method of Boas, suffices also for this, as the motility must be good, otherwise an atonic condition would be indicated.

He was given directions as to his treatment. Six days later I examined the state of his stomach, as to motility, after the method of Leube. Seven hours after a test-meal I introduced a stomach-tube, and withdrew about 20 c.c. of rest ; it was altogether fluid, except a few small flocculi that looked very much like the meat of watermelon and bread crumbs. Of the rest of the food taken, roast mutton, string beans, etc., nothing was seen. A further examination gave same results as above. Microscopic examination of the flocculi showed starch grains, vegetable fibres, and a few oil-globules.

September 5th.—The patient is doing very well ; in fact he is a patient no more, as all his annoying symptoms have disappeared.

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ON THE DIAGNOSIS OF PLEURITIC EFFUSION.

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The object of this paper is to again call attention to the importance of percussion outlines in the diagnosis of pleuritic effusion. Owing largely, no doubt, to the varying statements of authorities, the diagnostic value of the curve which bounds an effusion is still greatly underestimated. When one considers the uniformity of dynamic conditions under which fluid collects in different pleural cavities, it is an *a priori* inference that such collections must have a uniform, and therefore characteristic, shape; and since this shape can be determined by percussion, the evidence of the latter ought to be of a most conclusive, and even pathognomonic, character. Such I believe it to be.

About the ordinary physical signs I shall say but little. While recognizing their great value, it must be admitted that none of them are pathognomonic. Even puncture with a hypodermic needle is not always conclusive. A positive result is of course final, but if no fluid is obtained the diagnosis still remains in doubt. I have punctured several times over a typical effusion before fluid was obtained. In one case, hereafter given, where the shape of the flat area had led to the probable diagnosis of effusion, the operation of a small emphysema was delayed for months because of the negative result of several punctures. The other commonly received signs of effusion are still more equivocal. Absolute flatness may be due to other conditions. Bronchial respiration and bronchophony, as heard over a consolidated lung, may be everywhere heard over a large effusion. On the other hand, respiration may be almost absent over a consolidated lung if the bronchi happen to be impervious. Even vocal fremitus, perhaps the most valuable of these signs, is of uncertain import ; it may be absent in consolidation, or, rarely it is true, well marked over an effusion. Again, I have heard numerous fine moist râles over an effusion, and I have obtained fluid immediately beneath a point where a friction rub was most intense. In short, none of these signs are more than strongly suggestive, and no one of them, I believe, approximates in value to the evidence afforded by percussion.

As an effusion gradually increases in quantity, its upper border undergoes, of course, a gradual series of changes. Since, however, this border presents three characteristic types of curve according to the amount of fluid, it will be convenient to divide effusions into small, moderate, and large. The present article deals only with typical, non-encapsulated, inflammatory effusions.

1. Small Effusions.—In this form a small area of flatness exists behind, at the extreme base of the thorax, with or without pronounced auscultatory signs of effusion. A friction sound may be heard directly over the flat area. Respiration may be quite distinct and accompanied by distant râles.

The diagnosis of such an effusion, especially when very small, depends in the first place on the discovery of the abnormal area of flatness. This observation is not superfluous, because such effusions are frequently overlooked. The zone of flatness caused by a small effusion is often not more than two or three inches in width, and when, in percussing from above downward, the upper border of this zone is reached it is sometimes mistaken for the normal limit of the thorax. This is particularly true in the case of pulmonary emphysema, where the lower boundary of pulmonary resonance is no longer at the level of the tenth dorsal vertebra on the right and the eleventh on the left, but an inch or two lower on both sides; hence the correspondingly lower position of the effusion. Such an error of interpretation must be avoided by carefully marking the lower limit of pulmonary resonance on both sides. The difference between the two will then appear and challenge further investigation.

Now the characteristic, almost pathognomonic, feature of such small effusions is the curve of the upper boundary of flatness as determined by light percussion. This curve is shown in Figs. 1 and 2, lines 1, 2, 3, and 4, the different lines representing varying amounts of fluid. The line, beginning at the spine, extends almost horizontally for a varying distance, usually to a point at or in front of the posterior axillary line, where it drops by a rather abrupt curve to the base of the thorax. The larger the effusion (within certain limits as will presently appear), the wider the zone and the more anterior the drop. The latter may rarely reach the base as far forward as the apex of the heart.

During the many years since I first learned to look for this curve in small effusions, I have become more and more impressed with its constancy and diagnostic significance. It is the only curve which I have ever found in small effusions, and I have rarely found it in anything else. That a consolidation might assume a like contour cannot, of course, be denied. In a large number of cases of pneumonia and phthisis I have never seen it.[1]

2. Moderate Effusions.—I would define a moderate effusion as one in which the pleural cavity is perhaps half full of fluid. In a general way, it may be said that the upper half of the affected side is resonant, the lower half flat. Intra-thoracic pressure is positive, but not enough so to produce any great displacement of organs. Resonance over the slightly compressed lung is more or less tympanitic.

Here, again, it is the curve of the upper boundary of the flat area which is the most characteristic sign of effusion. This so-called "letter of S" curve, to which attention was first called by Calvin Ellis in the later seventies, has not received the recognition it deserves. For example, in Osler's recent "Practice of Medicine" it is not even mentioned. And yet we possess in this peculiar curve a sign of moderate effusion which surpasses all others in value, which is quite distinctive, and which is rarely simulated by any other condition.

This curve is represented by the lines 5, 6, and 7, of Figs. 1 and 2. Starting behind somewhere along the

[1] On referring to Weil (Topographische Percussion, 1880) I find that he describes a curve similar to the above for all effusions except those which are very large.

middle third of the dorsal spine, it extends first outward, then more and more abruptly upward, across the scapula to the region of the shoulder. It may, in some cases, be traced across the upper axillary region, or, if

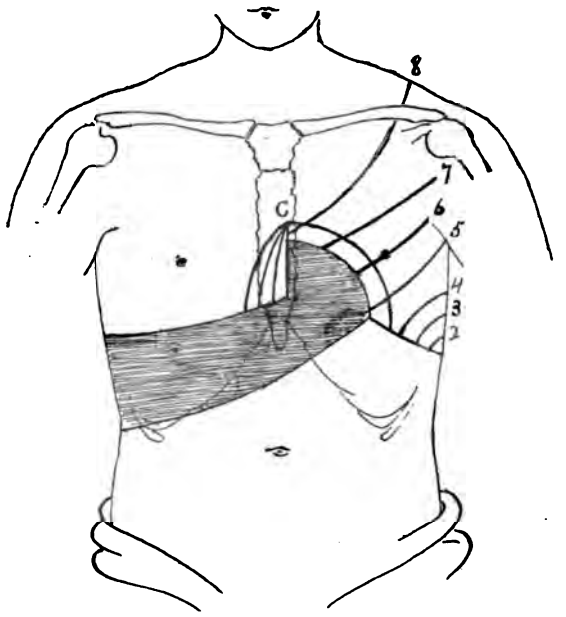

FIG. 1.

the effusion is somewhat greater, it will be lost in the shoulder or even slightly above it. These various lines are shown in the figure, the S character of the curve being more pronounced in the more moderate effusions. In front the line reappears. It may drop quite abruptly from the upper axilla to the thoracic base near the apex of the heart; or, in a larger effusion, follow approximately the course of the 4th or 3d rib. Its characteristic feature is not so much its S form as the fact that it has its highest point in the axilla, dropping slightly, at least, toward the sternum, and markedly toward the spine.

This line may be readily obtained in all uncomplicated cases of moderate pleuritic effusion. Differing, as it does, in a most striking manner from the contour of a consolidated lower lobe, it is of the utmost value in just those cases where some such aid is most needed, namely, in the diagnosis between effusion and pneumonia. In consolidation of a lower lobe the highest point of dulness is at the spine, from which it descends toward the upper axilla. The question, therefore, of resonance in the triangle A B C, Fig. 2, may decide conclusively the diagnosis between these two affections.

Why is such an important sign of pleuritic effusion still unrecognized? Garland pointed out one, perhaps the chief, reason; *i.e.*, varying methods of percussion, and failure to sharply distinguish between dulness and flatness. It cannot be too strongly emphasized that the characteristic curve of an effusion is the upper border of absolute flatness, as elicited by light percussion. If tapping lightly, the plessimeter finger is gradually moved from the area of absolute flatness toward the area of resonance, and a mark is made beneath the middle of the finger as soon as the slightest resonance is perceived, the curve can always he easily defined. Good pulmonary resonance immediately above the line is not to be reflected. The space between the S curve and the spine ("dull triangle" of Garland) is often dull, resonance over the scapula is never great, and the slight compression of the whole lung further diminishes its resonance and gives the percussion note a slightly tympanitic quality, and, therefore, higher pitch.

Another cause of the prevailing difference of opinion as regards the S curve lies, I believe, in the fact that no sharp distinction has hitherto been made between the curves of moderate and of small effusions. The believers in the S curve have always insisted that, except in very large effusions, the highest point of flatness is in the axilla. On the other hand, Wintrich, Fraentzel, and Weil, for example, state that the highest point is behind, and Powell finds a difference in different cases. I believe that in an otherwise normal chest it is simply a question of quantity of fluid. In a beginning effusion, flatness appears first at the base behind, and is bounded by the "convex curve" I have described. In a very small effusion, this curve drops in the posterior axillary line. In a somewhat larger, the zone broadens and the drop is farther forward—possibly even at the cardiac apex. If now the effusion goes on increasing, the line suddenly rises in the axilla and becomes the S curve, a change which I have hitherto been unable to carefully follow because of the rapidity with which it takes place. An effusion may be found one day highest at the spine, and on the next highest in the axilla. Why this is the mode of development I am unable to say, but I believe it to be a clinical fact.[1]

One brief case in illustration of the diagnostic value of the S curve:

M. S——, aged thirteen, had been afflicted for some time with joint tuberculosis; lungs negative. On April 15, 1893, sudden attack of pain in the left side, with difficult respiration, both lasting only twenty-four hours; no chill or rusty sputum; up and about on the second day. I was called on the 22d, when physical examination showed an area of flatness at base of left back, with slight S curve which, however, did not rise very high in the axilla and dropped to the base near the cardiac apex. Respiration over this area bronchial, with fine moist râles apparently just beneath the ear. Fremitus slightly diminished, and voice sounds somewhat distant. Diagnosis, effusion, on the strength largely of the characteristic curve. May 5th, puncture in two places with negative result. June 23d, flatness somewhat diminished, S curve less accentuated (more of an approach to the convex curve of small effusion). July 12th, line has again risen and

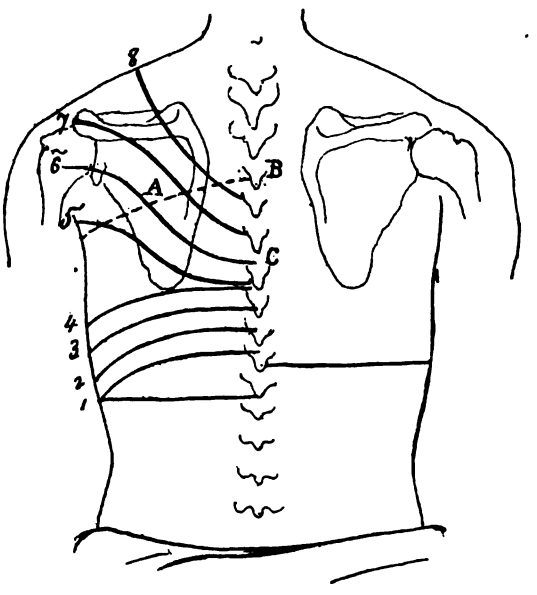

FIG. 2.

S curve more pronounced. Puncture again with negative result. September 13th, no change; no chills, and but very slight fever. October 28th, de-

[1] That the posture of the patient (erect or recumbent), while the effusion is taking place, does not at all effect the form of the flat area, is a position which I am not prepared to take. The recumbent posture may, for example, cause an earlier development of the S curve, or the drop of the "convex" curve may be further forward when the posture is lateral. In view, however, of the constancy of these two curves in moderate and small effusions, respectively, it does not seem to me that posture can be a very important element in determining the form of the flat area. I may also add that in the inflammatory effusions I have never been able to detect a change of fluid level on change of posture

cided to puncture again since I still believed there was fluid. First puncture, in tenth space behind, negative. Second, in eighth space near angle of scapula, gave pus, which was subsequently drained by incision.

In this case the curved line proved to have been a more valuable sign of effusion than even puncture, and should have led earlier to more energetic measures.

3. Large Effusions.—When the quantity of fluid exceeds a certain limit, the upper border of flatness loses its distinctive "letter of S" form, and becomes a simple curve with upward concavity. Moreover, as the lung becomes more and more compressed and crowded up toward its hilus, the difference between the absolute flatness of the fluid and the resonance over the lung becomes less marked. Still an appreciable difference usually remains, and we find that the area of flatness rises along the outer aspect of the chest, while slight pulmonary resonance is still found along the upper spine behind and in the angle formed by the sternum and clavicle in front. Lines 7 and 8, Figs. 1 and 2, show different phases of the line of increasing effusion.

It is, of course, well understood that the characteristic diagnostic feature of a very large effusion is the displacement of organs—of the heart, namely—to the right or left, and of the mediastinum, as determined by the encroachment of the perpendicular line of flatness upon the healthy side in front. The diaphragm also is displaced downward, causing on the right depression of the liver, on the left the filling of Traube's "semilunar space" and a palpable spleen. The diagnosis of such cases is very easy.

When, however, the quantity of fluid is not extreme, when the S curve is still perceptible or only partially effaced (lines 6 and 7), and when, therefore, there is as yet no pronounced displacement of organs, diagnosis is more difficult. At this stage respiration over the effusion is quite apt to be bronchial, and the extent of the area of flatness does not differ so markedly from that of a consolidated lower lobe.

It is in just these cases, when upon the left side, that a slight but easily discoverable displacement of the heart toward the right affords, perhaps, the most valuable confirmatory sign of effusion we possess. I have several times, in the past few years, called attention in a casual manner to this point. The recognition of this enlargement depends wholly upon the assumption, which I believe to be invariably true: 1. That in adult life[1] the right border of the normal præcordial area is a perpendicular line extending from the third (usually) to the sixth rib, one-half inch to the left of the median line. This I believe to be a more accurate statement than that of most authors (Weil, Cutler and Garland, Shattuck), that this line corresponds to the left border of the sternum. However, this is parenthetical, and the question is of trivial importance.

2. That under normal conditions in the adult, in the right angle formed by the upper border of hepatic flatness and the perpendicular right border of præcordial flatness above mentioned, the sternum is perfectly resonant. By "perfectly," I mean that the resonance here over its lower half is as good as that over its upper half, although, compared with normal pulmonary resonance, the note is a trifle higher pitched. This fact cannot be too strongly insisted upon. When, in an adult, there is dulness in the median line over the lower half of the sternum, as compared with the upper half, some pathological condition exists. Aside from cardiac displacement and affections of the right lung or the mediastinum, this dulness is usually due to an enlarged right heart. Less often there is pericardial effusion. Rarely, an old pericarditis has pushed back the border of the right lung, and the latter has become fixed in its abnormal position. Whichever may be the cause, it is certain that dulness in this angle is always significant. It is most easily detected by rather light percussion upon the finger carried from above downward along the sternal groove.

Now, in a left-sided effusion, this normally resonant angle is the first locality in which signs of increasing pressure and displacement are clearly manifest. The slightest movement of the heart toward the right is at once shown by relative dulness in this angle. The form of the dulness is shown in Fig. 2, the various lines dropped from the point *C*, illustrating various degrees of displacement. It is owing to the invariable position normally of the right cardiac boundary, and to the opportunity for exact and delicate percussion which this region affords, that displacement can here be readily detected at a time when that of any other organ or structure would be imperceptible. Of course, the sign is not characteristic, like the S curve. One cannot absolutely exclude a previous enlargement of the right heart or other causes of a similar area of dulness. But in the absence of souffles, suggestive history, or any other sign of complication, the coincidence of such dulness with other evidences of pleuritic effusion strengthens wonderfully the diagnosis.

It may here be mentioned that the first movement of a heart subjected to left-sided pressure is not one of rotation upon its axis. At first, the heart is simply crowded over *en masse*, the relative position of base and apex not being materially altered. Indeed, I believe that it is only exceptionally, and in cases of enormous effusion, that the heart swings upon its base, so that the apex comes to lie in the region of the right nipple. This opinion is the result both of post-mortem observation and of the clinical fact that, even in marked displacement of the heart, so as to cause a dull area on the right as far as the mammary line, the apex beat is usually heard loudest somewhere in the region of the ensiform cartilage.

In right-sided effusion displacement of the heart to the left is neither so early nor so easily detected. When it does become evident, other signs are already so prominent that it has no peculiar value.

[1] In children from the age of five to eight up to about the age of puberty, the conditions are entirely different, as the writer has attempted to show in a paper entitled "The Normal Præcordia in Childhood," read before the Pan-American Congress in 1893.

Clinical Department.

IS HICCOUGH A SYMPTOM ONLY OR A DISEASE PER SE?

By HENRY LEVIEN, M.D.,

NEW YORK.

THE case of "Fatal Hiccough" reported by Dr. McCartie in a recent issue of the MEDICAL RECORD, reminded me of a similar one I recently came across, but which fortunately terminated in recovery.

While hunting up the case in my record-book, I found two more interesting cases, which I would call typical, as opposed to the third one, which looked to me atypical, or one of an unknown cause.

CASE I.—Miss B——, aged twenty-two, occupation housework. On the previous evening she was taken with hiccoughs, which would come on about every fifteen minutes and continue for three or four minutes at a time. She did not sleep the whole night and wore an anxious and prostrated look. All domestic remedies tried were of no avail. I elicited the history of neurosis on her maternal side; she herself had frequent though slight hysterical attacks, and suffered greatly from dysmenorrhœa. This case yielded within a week to sedatives and antispasmodics, and isolation from her friends and relatives.

CASE II.—Miss M——, aged nineteen, shop girl, very anæmic and emaciated. During the last three years she would drop in to see me when an attack of "biliousness" annoyed her too much. The last time she called on me was on account of an intolerable

hiccough. It was indeed of a violent nature, and coming, as it often did, simultaneously with an eructation of gases from her diseased stomach, the cough could be heard at quite a long distance. Believing this case to be purely of gastric origin, I determined upon lavage and resorcin internally as an antiseptic. Within four weeks I used fifteen irrigations of her stomach, adding first sodium bicarb., later creosote to the water, when the disease abated, and she has fully recovered.

CASE III.—Mr. M——, aged fifty. He met with an accident, being run over by a heavy express wagon and receiving many contusions and wounds, which were stitched up. Sedatives were required on account of the shock, which acted heavily upon him. I could not detect any internal injuries. On the fifth day Mr. M—— developed a local peritonitis in the left hypochondrial region. At this stage Dr. A. Brothers was asked to see the case with me, and he, coinciding with my opinion, did not detect any other ailment. Ice externally, and opium in full doses internally, checked the further spread of this disease, and on the fourth day the patient felt well, and both ice and opium were discontinued. An abscess which formed on the patient's knee kept him in bed, otherwise he seemed on his way to full recovery. One morning (three days after I discontinued the opium), when I called to dress his wound, I found him afflicted with hiccoughs, which followed one another in quick succession. Naturally, neither food nor sleep could be indulged in, and in consequence Mr. M—— was very much exhausted. There could be no gastric trouble, because his nourishment consisted of fluids in small quantities, nor could there be any special nervous element in this case, as he and his family were always in the best of health. I called three times during that day, and nearly exhausted the list of known remedies upon him, with but little effect. Morphine hypodermically would relieve him for a while, but as soon as the narcotic effect passed off the trouble returned with the same severity. I consulted all the reference books at my command, and finding singultus as a symptom only, I certainly could not find any suggestion how to treat hiccough as a disease. Prompt relief was necessary, as my patient was sinking. Eventually I picked up a medical formulary, and finding in its index hiccough, I was too anxious to find the panacea against this dreadful disease. What I found was calomel, recommended by Dr. Gerhard, to be given in $\frac{1}{12}$ grain doses every hour. As I had tried nearly everything but calomel, I hurried to my patient and prescribed this last remedy.

I was delighted when the report came, that after the fourth dose the trouble stopped entirely—and it did not come back. Where was the seat of the malady in this case, and in what way had the four minute doses of calomel exerted such a happy influence in cutting short this attack?

Comparing the three cases reported, I am inclined to believe that besides the typical singultus, which is only a symptom pure and simple, there exists another form of it which is a disease per se, the etiology of which is not yet known.

239 EAST BROADWAY.

ANOPHTHALMOS.

BY G. STERLING RYERSON, M.D., C.M., L.R.C.S. EDIN.,
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PROFESSOR OF OPHTHALMOLOGY IN TRINITY MEDICAL COLLEGE, TORONTO.

SOME ten years ago I published a series of cases in the *Canada Lancet* illustrative of the anomalies of development of the eye. These cases embraced aniridia, coloboma of the iris and choroid, persistent pupillary membrane, persistent arteria centralis, and pigmentation of the conjunctiva. The publication of an example of the above anomaly by Dr. Leonard Landes reminds me of a somewhat similar case which came under my notice, but which has not been published until now. In 1871, when a student with Dr. George A. Sterling, of Sag Harbor, L. I., I went with him to see an infant which had been born the day before of Jewish parents. It was a male, very puny, with a double talipes varus. The forearms were bent inward and the hands flexed, presenting a condition analogous to club feet. It possessed conjunctival sacs, and at the bottom of them were to be seen rounded elevations, the rudimentary eyeballs. The eyebrows, eyelids, and ciliæ were normal. The child died in a few days. No autopsy was allowed.

The number of instances of total absence of the eyeballs is very small. In the great majority rudimentary eyeballs are to be found. Still rarer are the cases of monophthalmus. The conjunctival sac is always developed in some degree, as are also the adnexa. At the bottom of the conjunctival sac is to be found a round reddish-gray body consisting of connective tissue containing fat and having attached one or more rudimentary eye muscles. The optic nerve is sometimes present, oftener absent. In other instances the eyes are microphthalmic, consisting of a sac filled with fluid, and sometimes possessing a rudimentary cornea. It is curious that the eyelids, eyelashes, and lachrymal apparatus are always to be found.

ASEPTIC SYRINGES.

BY THOMAS HUBBARD, M.D.,
TOLEDO, O.

THE syringe is all but tabooed in surgery because of the useless or filthy condition of the piston packing. For some years I have been using ordinary asbestos sheeting of about three-eighths of an inch thickness as packing, and have found it very satisfactory in all respects. The disc should be cut a little larger than the barrel calibre and after it is fixed firmly by the screw-nuts on the piston one-half should be turned upward to increase suction power and one-half downward for expulsion. It is practically indestructible and can be readily sterilized. For some time after packing small fibres may be found in the fluid, but this is immaterial except in hypodermic syringes. The Overlach syringe has an asbestos packing in cement. Hypodermic syringes intended for injecting escharotics can be packed with the ordinary asbestos.

Post-nasal syringes are much improved by such packing. Mr. George Ermold has constructed one for me which is very satisfactory. The nozzle is made of aluminum and the bulbous tip has about fifteen very fine perforations. The barrel and piston are made of vulcanite. For general use these syringes should be constructed with barrel capacity of about two drachms, or have a regulator on the piston shaft. The danger comes from forcing too much fluid into the post-nasal cavity. Properly constructed and expertly used the post-nasal syringe should occupy an important place in our armamentarium.

Beer and Degeneration of the Heart and Kidneys.—Dr. Bollinger, director of the Anatomico-pathological Institute in Munich asserts that it is very rare to find a normal heart and normal kidneys in an adult resident of that city. The reason for the kidney disease is the tax put upon these organs by the drinking of excessive amounts of beer, and the cardiac hypertrophy and degeneration are secondary lesions for the most part. Formerly the population of the city was recruited by accessions from the country, but the abuse of beer has spread now to the rural communities, so that this source of healthy new blood is cut off.

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THE PROPER CARE OF THE CITY INSANE.

THE investigation of the New York City asylums for the insane, to which reference was made in these columns some months ago, has at last come to a close, and the State Commission in Lunacy, the investigating body, has handed its report to the Mayor. In accordance with our predictions, the report fully and explicitly vindicates General Superintendent Macdonald, and Medical Superintendents Dent and Macy. But while thus praising the direct administration of the asylums, the report severely criticises the Commissioners of Charities and Correction, and unreservedly condemns the system under which our asylums, in common with our other charitable institutions, are conducted. In its main presentation of facts and conclusions as to these things, the report is unexceptionable, and must meet the approval of everyone who is familiar with the conditions under discussion.

It does not follow, however, that one must agree with the opinion of the investigating commission as to just what change in system is most to be desired. The commission recommends, as it has previously done many times, that the city asylums be transferred to the State system. Under existing conditions, the city of New York pays about $600,000 annually toward the support of the State system, getting nothing in return. Meanwhile the State insane are cared for well; the city insane, poorly. The law permits the transfer of the city insane to the State system whenever the city authorities desire it. To make such a transfer, therefore, seems the simplest solution of the difficulty; and this, as has been said, is what the report under discussion suggests.

Now it may freely be admitted that if the possible choice included only the two alternatives of leaving the insane under present management or transferring them to the State system, there could hardly be two opinions as to the desirability of immediate transfer. But in point of fact, there are other possibilities, and these are worthy of very serious consideration. Briefly stated, these possibilities are the following:

1. It is possible that the State law might be so altered that New York City would no longer be unjustly taxed for the care of insane not her own. Were this done, one strong incentive to transfer our insane to the State would be removed.

2. Movements are under way which make it not only possible but probable that our absurdly organized Commission of Charities and Correction will be so remodelled that the interests of the paupers and hospital patients and criminals will no longer be pooled with those of the insane. This accomplished, and the insane placed under supervision of a non-political Commissioner or Board of Commissioners, another very strong incentive for the transfer of our insane to the State system would removed.

Could these two possibilities become realities, as in justice they ought, there is no reason why New York City might not continue to care for her own insane, and, without expending more money than her tax-payers are at present assessed for the purpose, place her asylums on such a basis that they would compare favorably with the asylums of the State, or any other public institutions of the kind.

This, it seems to us, is the ideal to be aspired to. But if for any reason it cannot be accomplished, if the possibilities just outlined cannot be made realities, then by all means let the city asylums be made a part of the State system. That the city should pay $600,000 for the care of State insane, and only half care for its own insane meanwhile, is an injustice to tax-payers and to recipients of charity alike, that should no longer be tolerated. As has already been said, transfer to the State system would be an enormous advance upon our present method of caring for the insane. The advantages of such transfer would be even greater than at present, should the Legislature make such changes in the State care laws as seem probable. The new constitutional amendment places the Lunacy Commission on a par with the Charities and Prison Commissions. It is reasonable to hope, therefore, that the Legislature, in supplying the details as to these commissions, will follow out the implied spirit of the amendment, by making the Lunacy Commission, like the Charities Commission, an honorary board, say of five members, serving without pay, and having advisory and supervisory rather than administrative powers. Should such action be taken, properly qualified men being appointed on the new Commission in Lunacy, many disadvantages of the present State system will be overcome.

We might do much worse than transfer our city insane to such a perfected State system. But, on the other hand, we might do even better, by perfecting our own system in the way above outlined.

WINTER MEETINGS OF SCIENTISTS.

THE last week has been prolific in gatherings of scientific men. The American Physiological Society, the American Morphological Society, and the American Psychological Association have all held their annual meetings. Besides this there have been meetings of the Geological, the Historical associations, and many other learned societies.

There seems to be a tendency on the part of the associations of a purely scientific character to meet in the winter vacations, while the more practical sciences pertaining to medicine meet during the summer. Undoubtedly the winter season is the best for work, since the weather compels members to keep in-doors and puts a considerable limit upon junketing. New York, however, is almost the only city in which the physicians congregate in the dead of winter.

THE TAX-COLLECTOR AND PHYSICIANS' INCOMES.

THE Treasury Department has issued a circular telling people who have incomes how to keep their books and accounts in order to make things easy and pleasant for the tax-collector.

On the credit side, this circular says, the professional man must place all his fees and all his charges for services, whether collected or not—in fact all unpaid bills—provided they are "good." We are curious to know how physicians can tell what accounts are good and what are not with any approximate exactness. Here will come merely an extraordinary temptation to underestimate the financial standing of his patients. Physicians must make up an estimate, not of their actual, but of their possible, income for the benefit of the tax-inquisitor.

THE NEW YORK CITY BOARD OF HEALTH AND SPURIOUS ANTITOXIN.

THE Board of Health has adopted the following resolutions:

"That no preparation of diphtheria antitoxin shall be offered or exposed for sale in this city unless the receptacle containing such preparation has a label on which is placed a statement of the value of the contents in antitoxin, as measured by some generally recognized standard, and the name and address of the producer."

No one doubts that this resolution is in the interests of public health. But it is a curious fact that such a resolution is allowed to pass unnoticed by the advocates of personal liberty. The newspapers advertise, and drug-stores display, any number of spurious cures for cancer, consumption, epilepsy, etc, and no one protests. But the sale of a spurious cure for diphtheria is forbidden!

THE NEW YORK ACADEMY OF MEDICINE.

THE Treasurer's report for the year 1894, shows the Academy to be in a prosperous condition. The total estimated assets amount now to nearly half a million dollars ($467,339.14). The running expenses amount to about seventeen thousand dollars, not including amounts spent for special purposes, such as purchase of books. The number of resident fellows is now 774, of non-resident 40, and of corresponding 7. The number of resident fellows added during the year was 40, lost by death 8, by removal or suspension 15. The report says:

"Evidences of broader influence, of higher attainment, of greater stability, must gratify observing friends of this Academy. The work which depends upon your contribution to the Treasury has not been allowed to wane. Receipts and expenditures for the Library, and general advancement, are larger than during any previous year, notwithstanding the great financial depression, which physicians have keenly felt.

"The Bureau for Nurses has been self-sustaining and added something to the Treasury. Three hundred and fifty-eight nurses have been registered, and one hundred and eighty calls for nurses have been responded to."

The condition of the Academy is evidently a prosperous one, and the profession are to be congratulated upon the renewed evidences of its successful work.

THE LIBRARY OF THE AMERICAN MEDICAL ASSOCIATION.

SEVENTY-FOUR boxes of books, containing the library of the American Medical Association, have been sent from Washington to Chicago, where they are deposited in the Newberry Library. So far as we can learn, these books are practically given to this library in return for its care of them. We congratulate the Newberry Library and the Chicago profession on its accession.

We do not exactly see, however, why the profession of the whole country should establish a medical library which can never be of much service except to the physicians of one particular locality.

News of the Week.

The New Health Officer.—Dr. Alvah H. Doty, Chief of the Bureau of Contagious Diseases of the Health Department, was nominated, January 2d, by Governor Morton, for Health Officer of the Port of New York, and was unanimously confirmed by the Senate. Dr. Doty, as one of the two prominent aspirants for the position, has fairly won, and can be congratulated accordingly. Endorsed by many of the leading medical men of the city, backed by a long and creditable record as a public officer in civil as well as military life, and with a professional experience in contagious diseases that eminently qualifies him for efficient service in his new office, he will enter upon its responsible duties with the best wishes of his professional brethren and with the fullest confidence of the public. That he will deserve all we have no doubt, and we wish him every success.

Results of Serum-therapy in Diphtheria.—Dr. Sims Woodhead publishes the following table:

	Number of cases.	Number of deaths.	Percentage of mortality.	Percentage of previous mortality.
Roux, Martin, and Chaillou, Paris.	448	109	24.5	51.7
Ehrlich, Kossel, and Wassermann, Berlin	220	52	23.6	34.7
Canon, Berlin	15	3	20.0	25.0
Schubert, Berlin	34	6	18.0	
Voswinkel, Berlin	60	19	33.3	46.5
Ehrlich, Berlin	89	12	12.3	
Kossel, Berlin	233	54	23.0	
Körte, Berlin	121	40	33.1	53.8
Bokai, Budapest	35	5	14.2	53.8
Heubner, Budapest	96	37	38.5	62.5
Katz, Berlin	128	17	13.2	38.9
Aronson, Berlin	255	31	12.1	32.5-41.7
Ranke and Oertel, Berlin	19	4	21.0	
The Lancet, Austrian Riviera	70	7	10.0	
Weibgen, Berlin	65	18	28.0	40.0
Muchleck, Philadelphia	2	0	.....	Two not treated died.
Dr. White, Willard Parker Hospital, New York	32	8	25.0	42.7
Cases reported in The Lancet and British Medical Journal	79	9	11.4	

To this may be added 236 cases treated at Trieste, with a mortality of twenty-two per cent. as against fifty-six per cent. which previously prevailed.

The Medical Faculty of Bordeaux.—The Medical Faculty of Bordeaux has received from the son of a former practitioner of the town, who had exercised his profession there for more than fifty years, a donation of 100,000 francs (£4,000) toward the establishment of a Chair of Gynecology.

Immunizing against Erysipelas.—A series of very interesting experiments have recently been made by Dr. W. S. Melsome and Mr. Louis Cobbett with the object of rendering animals immune against erysipelas. Streptococcus erysipelatis is a bacillus readily capable of cultivation on beef-broth. But after a few days it is found that it ceases to grow on the broth, and dies. Why is this? Drs. Melsome and Cobbett find that the reason why the streptococcus ceases to grow on beef-broth is that the pabulum suitable for its growth is exhausted. They deny altogether that the bacillus has secreted a toxin which has caused its own death. This theory of the exhaustion of pabulum would seem to be confirmed by the fact that colonies of the streptococcus often contain a few living bacilli after most of them are dead, and if those which remain alive are sown on solid media, they give rise to new colonies at once. Animals inoculated with cultures thus produced are rendered locally and generally immune against attacks of erysipelas; but the immunity, both local and general, is of limited duration, and varies with the parts inoculated. The results obtained, though disappointing from the point of view of clinical immunization, are interesting from the standpoint of science.

The New York Times has printed and distributed among the medical profession a supplement containing a very carefully prepared account of the serum-therapy of diphtheria. *The New York Times* has shown much enterprise and scientific knowledge in its discussion of this as of other medical topics.

Northwestern Medical Society, New York.—At the annual meeting of the Northwestern Medical and Surgical Society held December 19th, at the house of Dr. Robert Milbank, the following officers were elected for 1895: *President*, Dr. J. Blake White; *Vice President*, Dr. Henry Ling Taylor; *Secretary*, Dr. Dillon Brown; *Treasurer*, Dr. Frederick Peterson.

Death of Dr. J. W. Pinkham.—At a special meeting of the Medical and Surgical Staff of the Mountainside Hospital on December 10, 1894, the following resolutions were passed:

Whereas, We, the members of the Medical and Surgical Staff of the Mountainside Hospital of Bloomfield and Montclair, N. J., have learned with deep sorrow of the death of our colleague, Dr. John Warren Pinkham; therefore, be it,

Resolved, That in the death of Dr. Pinkham we acknowledge the loss from our members of one of our ablest and most conscientious practitioners, and one of our chosen favorites both as a gentleman and a friend.

Resolved, That as members of the same profession, we unite in honoring his memory and in retaining in our recollection a kind and grateful remembrance of his many good, genial, and excellent qualities.

Resolved, That we extend our sympathies to his bereaved family, that these resolutions be incorporated in the minutes of this body, and copies of them be sent to Mrs. Pinkham, to the local press, and to the MEDICAL RECORD and *Medical Journal* for publication. John J. H. Love, *President*; Richard P. Francis, *Secretary*.

"Origin of the Term Anæsthetics"—Correction.—In article under this title, appearing in our issue for December 22, 1894, p. 799, line 12 from the bottom, for October 16, 1849, read October 16, 1846.

A Reflex of the Buccal Mucous Membrane Excited by Sulphuric Ether.—Soulier (*Sem. Méd.*, November 3d) calls attention to the possibility of combating acute pulmonary œdema by pouring a few drops of ether into the mouth, which provokes a pulmonary reflex which has as its result the expression of the contents of the lung. He tried this procedure in the case of a man in a state of agonizing asphyxia. He placed a teaspoonful of ether in the mouth and it set up an abundant expectoration, but unfortunately six hours after the patient was dead.

The New College of Pharmacy.—The handsome new building of the College of Pharmacy, in West Sixty-eighth Street, between Columbus Avenue and the Boulevard, was opened on the evening of December 28. Hermon W. Atwood, Chairman of the Building Committee, turned the building over to the Board of Trustees, in whose behalf it was accepted by Samuel W. Fairchild.

Dr. George F. Shrady then made an address in which he reviewed the steady growth and influence of the college since its organization in 1829. In fact there had been no progressive movement made in pharmacy during the last half century in which this college had not taken a more or less active part. At all times it had the sympathy, support, and confidence of the medical profession, and with its increased facilities for a thorough pharmaceutical education it was well calculated to maintain such a position for the future. He congratulated the trustees on the outcome of their persistent efforts in the erection of the magnificent edifice, the like of which was nowhere to be found.

Professor Charles F. Chandler accepted the building on behalf of the Faculty, and gave an entertaining description of laboratory work abroad. Mr. Ewen McIntyre, ex-president of the college followed with some reminiscences, after which there was a reception and collation. The Reception Committee was made up of Mr. Atwood, Professor Charles F. Chandler, Gustavus Rampsberger, Albert Plante, William Jay Schieffelin, George Massey, Theodore Louis, B. T. Fairchild, William M. Massey, Dr. Charles Rice, Dr. Adolph Tscheppe, H. N. Fraser, J. N. Hegeman, Thomas F. Main, Charles Holzauer, and Herman Graeser. The new building is of light gray stone, buff brick, and terra cotta, in the style of the Italian Renaissance. It is six stories high, and includes every modern equipment and convenience for the work of the college. The cost of the building was about $200,000.

The Association of American Anatomists held its seventh annual meeting in this city beginning December 28th, Dr. Thomas Dwight, the President, being in the Chair. Dr. F. H. Gerrish read a paper on "The Best Arrangement of Topics in a Two-years' Course of Anatomy." Among other things Dr. Gerrish said: "The problem confronting us as teachers is to discover that

plan which reduces to the minimum the necessity of knowing a good deal of every department of medical knowledge before entering upon the study of any one. I believe that every faculty should work as a team. The anatomist should precede by a day or two the presentation of the subject upon which the physiologist will discourse. The system of teaching medicine is still somewhat antiquated." Dr. Harrison Allen, of the University of Pennsylvania, brought on the collection of Indian skulls from Philadelphia to illustrate his paper on "The Value of the Nasal and Orbital Indices in Anthropology." Dr. Allen said that races can be graded by the nose. It has been generally conceded, he said, that the long, slender nose indicates a high type and the flat nose a low type of men. The North American Indians have long been represented as a race of men with long, narrow noses. They have been classified as of this type. Dr. Allen's investigations have led him to believe that this is not correct as a general classification. The skulls he has were the skulls of Indians who lived in the Delaware Valley and whose ancestors long ago were friendly with William Penn and with the Quakers. He found that the flat nose was the prevailing type. Only thirty-five per cent. of those he has examined follow the rule of long, slender noses. The Indians who made things so uncomfortable for the New England settlers, however, were of the long, slender-nosed type of men who were born fighters and were proud of it. They made an incursion into the Delaware Valley and defeated the Indians there before Penn arrived. Dr. Allen thinks that one of the explanations of Penn's pleasant relations with the Indians was that those in the Delaware Valley were of the flat-nosed low type.

Dr. Wilder, of Cornell, in discussing the "Loose Characterization of Vertebrate Groups in Standard Works," said that many books were made up of contradictions and confusing statements. "The elementary physiologies that are used in our schools," he said, "are filled with a lot of moonshine about the baleful influences of tobacco and alcoholic stimulants. We should have logic with our natural science."

Dr. Frank Baker, of Washington, said that in his experience as an editor of a scientific paper he had been shocked by the bad style and unintelligible writing of men of science. He was inclined to believe that the "pernicious habit of reading the daily papers constantly and saturating one's self with them is affecting the whole American people."

Dr. George S. Huntington, of the College of Physicians and Surgeons, read a paper on the "Convolutions of the Hemispheres of Elephas Indicus."

The American Physiological Society began its seventh annual meeting at Washington, on December 27th, with Professor H. P. Bowditch, of Harvard, President of the Society, in the chair. He read a paper, "With Regard to Representation of this Society on a Committee to Decide the Place of Meeting of the Societies of Naturalists, Morphologists, Anatomists, and Physiologists." Dr. G. M. Sternberg, Surgeon-General United States Army, read a paper on "Explanation of Natural Immunity," and Dr. William M. Porter, of Harvard, read one on "Inhibition Hypothesis in the Physiology of Respiration." Several other papers were read. The subject suggested by the council for discussion at the next Congress of American Physicians and Surgeons was "Internal Secretion of the Glands."

The American Morphological Society met at Washington, on December 27th. Dr. E. B. Wilson, of Columbia University, was elected Chairman.

Indian Territory Medical Association.—The Indian Territory Medical Association met at Wagoner, I. T., December 11th and 12th.

The Syracuse Academy of Medicine held its annual meeting for the election of officers December 4th, as follows: *President*, Dr. Alfred Mercer; *Vice-Presidents*, Drs. John Van Duyn and Ely Vandewarker; *Secretary*, Dr. T. E. Halstead.

Dr. Behring, the discoverer of the antitoxin remedy, is to be decorated with the Cross of the Legion of Honor in the New Year's list, and Paris discloses increasing confidence that the pest of diphtheria has been definitely robbed of its terrors. Drs. Behring and Roux declare that of 100,000 cases now on record there is not a single instance of the vaccine doing the slightest injury.

Tubercular Antitoxin.—The *New York Times* announces through its London correspondent that M. Roux has discovered a serum-therapy for tuberculosis. We should add that nothing could be much more improbable than that this announcement should be true. For, so far as medical knowledge goes, there is no such thing as even a temporary immunity against tuberculosis in human beings.

Obituary.

WILLIAM DETMOLD, M.D.,

NEW YORK.

DR. WILLIAM DETMOLD, one of the oldest and most distinguished surgeons in the United States, died of paralysis at his residence in this city on December 27th. He was the son of Henry G. Detmold, formerly Court Physician to the King of Hanover, was born in Hanover, December 27, 1808, and graduated at the University of Gottingen as Doctor of Medicine in December, 1830. After serving as army surgeon in Hanover he settled in New York in 1837, and introduced orthopedic surgery into this country.

He established an orthopedic clinic at the College of Physicians and Surgeons in 1841. In 1862 he became Professor of Military Surgery and Hygiene there, and afterward Professor of Clinical and Military Surgery.

Dr. Detmold was prominent in the organization of the Medical Corps of the United States Army in the earlier part of the war, and introduced a knife and fork for one-armed men, supplied by the United States Government as the "Detmold knife." During a surgical practice of over half a century in this city he was Vice-President of the New York Academy of Medicine, Consulting Surgeon to the Presbyterian Hospital, the first President of the New York County Medical Association on its organization in 1884, and one of the founders and President of the Society for the Relief of Widows and Orphans of Medical Men.

Dr. Detmold contributed largely to the medical journals of the country, his first publication on orthopedic surgery appearing in the *American Journal of Medical Sciences* in 1837.

Society Reports.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, November 2, 1894.

BEVERLEY ROBINSON, M.D., PRESIDENT PRO TEM.

Spinal Paraplegia and Anæsthesia.—DR. ROBINSON presented the patient, a clerk, twenty-seven years of age, family history negative as to neurotic taint. Patient denies gonorrhœa, but had a sore, thought not to be specific, two years ago. Slight eruption on legs one year later, and slight mucous patches in mouth. Has been treated for syphilis. Admitted to St. Luke's October 9, 1894. Had been a healthy child. Moderate beer habit. No rheumatic, malarial, cardiac, renal, or hepatic history. Had pleurisy four years ago.

Present trouble began thirteen months ago with numbness and slight loss of power in the thighs. Two days later severe cramps in calves, and in five days the left leg was completely paralyzed and right one almost so. For three weeks there was no change. Then there was gradual return of power, so that patient could walk around on crutches. During the first week there was severe diarrhœa, with loss of control of anal sphincter. Since then there has been incontinence of urine and partial loss of control of stools. There has been steady, but very slow, improvement ever since the first month, and now the patient has pretty good control of right leg, but the left leg is still very weak. There has been considerable loss of tactile sensation in both legs, more so in right. Sense of heat, cold, and pain are affected to a greater degree. Knee reflexes markedly exaggerated, more on left side; ankle-clonus; rigidity of both lower extremities; no disturbance of cutaneous reflexes. Upper extremities normal. Pupillary reflexes normal. Electrical reactions normal.

Dr. Robinson said that in presenting the patient he would like to elicit an opinion as to the exact nature of the lesion producing the symptoms, and especially as to the propriety of using electricity, regarding the value of which in cord lesions there seemed to be some difference of opinion among neurologists. He said that Dr. Starr, who had examined this patient, had pronounced the case one of spastic paralysis, the lesion affecting more particularly the lateral columns of the cord, and not, if Dr. Robinson remembered his statement correctly, affecting the anterior portion. Dr. Starr, it appeared, had advised against the use of electricity, and it was particularly on the point whether this agent might not be of some use in sclerotic lesions of the cord that the speaker wished an expression of opinion by the members. He believed himself that galvanism ought to be employed in this case. Regarding the prognosis, would the patient continue to improve, or was the lesion of a nature which made further improvement impossible? On the supposition that it might be of specific origin, the patient had been treated by mercurial inunctions, iodide of potassium internally, and hot baths.

Replying to a direct question from the President, Dr. Delafield said he thought galvanism would make very little difference in the result. If the lesion were syphilitic, antisyphilitic treatment might prove of further value, but if syphilis were left out he thought the improvement would cease at a certain point. Since Dr. Starr's experience had been so much greater than his own, his opinion regarding the nature of the lesion and treatment would be of much more value.

DR. HALSEY, who had charge of the case as house-physician at St. Luke's, said that Dr. Starr thought there might be a localized pachymeningitis of the cord, and that antisyphilitic treatment might affect that, but there must also be a sclerotic process within the cord itself which it would not influence.

DR. PEABODY though electricity would have no influence on the cord lesion; that its only value would be in keeping up the nutrition of the muscles until the time when nerve-power might be restored. But in the present case it was needed for this purpose, as it had been stated the patient walked on crutches, and in that manner kept up sufficient peripheral stimulation without electricity or massage.

Later DR. DANA, in reply to a question by Dr. Robinson, but not knowing the history of the present case, said he thought electricity was of some use in certain chronic lesions of the cord, say locomotor ataxia.

Cosmetic Effect of the Knife in Lesions of Small-pox.—DR. ROBERT ABBE presented a young lady in illustration of the cosmetic effects of the knife in certain ugly lesions produced on the nose by small-pox. The pitting on this prominent feature was the worst which he had ever seen, and in order to relieve it he resorted to what, so far as he knew, was quite a novel procedure, namely, shaving off the surface of the organ down to near the bottom of the pits. The raw surface had healed without scar and had left this portion of the face less deformed than any other. Without the operation the ugliness of the nose would have made the young lady's life unendurable.

Report of a Case of Tetanus, with Exhibition of Cultures of the Tetanus Bacillus.—DR. W. GILMAN THOMPSON read the paper and made the demonstrations (see page 5).

DR. R. F. WEIR had found that during the last year some eleven cases had been treated by injections by Tizzoni and others. He had records of nineteen similarly treated cases, twenty with the one just presented, with four deaths. The dried alcoholic precipitate of serum from the immunized horse or dog had been found rather insoluble, while the blood-serum itself, or the serum dried in vacuo into scales, which is quite soluble and permanent, has proved satisfactory. Using the latter, nine out of eleven cases lately collected by him were cured. In great contrast to that, ninety-five per cent. of all cases of tetanus had died prior to the inoculation treatment. The quantity of serum injected had been from thirty to fifty cubic centimeters at a dose, or of the dried serum three to five grammes, the total amount not having exceeded 300 c.c. in any one case. It had not always been followed by reaction. The original inoculation of the immunized animal is made in the proportion of 1 gm. of serum from a tetanized animal to 1,000,000 gm. of a healthy horse, etc.

One experimenter while working on mice inoculated himself accidentally with tetanus virus, but immediately began injections with attenuated cultures, kept it up several months, and no result had followed. This method (Brieger's) is not so satisfactory as the blood-serum injections of Tizzoni and Cattani.

The dry scales are yet very expensive, costing some $40 a tube, containing 3 gm. each; but he believed this antitoxin would soon be prepared in the laboratory of the College of Physicians and Surgeons, to meet the emergencies of the profession in this city. Of course the demand for it was quite limited, as tetanus was a very rare disease. It was stated that light and oxygen were supposed to kill germs of this kind, yet peroxide of hydrogen had been found to have no effect. Later observers had declared the germ not to be an anæroid one.

DR. THOMPSON remarked that Dr. Byron had been able to keep cultures of the tetanus bacillus under oxygen.

Nephrectomy in a Case of Congenital Absence of One Kidney.—DR. F. P. KINNICUTT related the case. He had seen the patient with the surgeon to a hospital in a neighboring city. She was poor, and had been compelled because of her sufferings from a tumor of the kidney, to give up work and enter the hospital. An exploratory incision was decided upon, was made in the lumbar region, and led to removal of the kidney,

which was of horse-shoe form and had undergone sarcomatous degeneration. Absence of the other kidney had not been suspected until uræmic symptoms developed and terminated in death within forty-eight hours. He remembered that Dr. Polk had a similar experience some years ago.

Dr. Weir remarked that congenital absence of one kidney occurred once in about four to six thousand persons.

Dr. Polk said he had recently had another case of congenital absence of one kidney, but fortunately the anomaly was discovered before he took out a piece of the ureter of the only kidney, which he was about to do in an operation upon the uterus.

Syphilitic (?) Infiltration of Peritoneum following Ovariotomy.—Dr. W. M. Polk related what to him was a novel experience. Last spring he removed two small ovarian tumors, and a third one about the size of the uterus, at the sixth month of pregnancy. In other respects the pelvic organs seemed normal, and the operation was simple. Convalescence was natural until about the fourteenth day, when examination revealed a mass in the neighborhood of the larger pedicle. It was thought a purgative would probably cause the supposed exudate to disappear, but instead it increased until it filled the entire cavity from the umbilicus down, except a narrow strip on the right side. Dr. Polk still supposed the infiltration would disappear, possibly with the formation of an abscess, but incomplete intestinal obstruction developed, and on opening the abdomen he found the sigmoid flexure occupying a position at the brim of the pelvis, the parietal peritoneum thickened everywhere about half to three-quarters of an inch. During the manipulation he accidentally opened into the gut and bladder. The pedicles of the tumors were normal. The wounds were closed. On leaving the hospital he met Dr. Bangs, whom he asked what was wrong with the woman, and he replied that she had tertiary syphilis. She was put on iodide of potash, and lately on visiting his office was found to have no pelvic infiltration and to be quite well.

The theory of mycosis, suggested by Dr. Weir, appeared to Dr. Draper more reasonable than that of syphilitic gumma in explanation of the tumor. Dr. Polk said no microscopic or bacteriological examination had been made.

Abscess of the Liver.—Dr. Polk mentioned a case of abscess of the liver, with inflammatory obliteration of the gall-bladder, which he had operated upon three days ago by the open method, employing gauze drainage. It illustrated, he said, the innocuousness of the open method of treating hepatic abscess.

An Epidemic of Poliomyelitis.—Dr. C. L. Dana, in presenting a microscopical section, referred briefly to an epidemic of poliomyelitis, affecting children chiefly, which occurred last summer in a section of Vermont about thirty miles long by ten broad. For particulars he was indebted to Dr. Caverly, health officer of Rutland, Vt., who stated that in this limited population there had been as many as one hundred and fifty cases of typical poliomyelitis anterior during the months of June, July, and August. None of the children who were affected died, but a few adults did. No autopsies were obtained in man. Dr. Caverly had sent the speaker a hen which was paralyzed, and which had been one of a flock of hens with several cases of paraplegia coming on rather suddenly. The flock was at the end of a village where there had been fifteen to twenty-five cases of anterior poliomyelitis among children. Dr. Dana and Dr. G. M. Hammond studied the case carefully and found that the hen had bilateral motor paralysis of the legs, slight motor paralysis of the wings, none at all of the head and neck; there was no sensory trouble, no anæsthesia. After killing the hen, Dr. Dunham, of the Carnegie Laboratory, made careful biological study of one sciatic nerve and of the spinal cord, but with negative results, except that he obtained one culture from the sciatic nerve which he believed was accidental. There was no meningitis. On microscopic examination Dr. Dana found plain evidence of poliomyelitis in the lumbar enlargement, the appearance being very much like that which had been found in some specimens taken from cases of anterior poliomyelitis in the human adult. There was intense congestion and some hæmatin in the anterior horns.

He thought the occurrence was somewhat confirmatory of the view that anterior poliomyelitis was an infectious disease and might become epidemic. The other epidemics had been reported in literature. Only about ten per cent. of the cases occurred in adults. As to horses being affected, Dr. Dana said this was probable. But it seemed veterinarians were not in the habit of distinguishing sharply between meningitis and some other conditions.

Stated Meeting, December 7, 1894.

H. F. Walker, M.D., President, in the Chair.

Chronic Bilateral Parotitis.—Dr. Robert Abbe again presented the man first shown at the April meeting, with a swelling beneath and in front of the lobe of each ear. It had persisted for eighteen months, increased in size whenever the patient took a cold, was sometimes painful, and always very annoying because of its appearance. Dr. Abbe thought it was a bilateral parotitis, but said that Dr. Weir and Dr. McBurney were inclined to regard the case as one of symmetrical lipoma.

Dr. Weir, being present, again expressed his impression that the case was one of symmetrical lipoma, and Dr. Shrady concurred in this opinion and said he thought there would be no difficulty in extirpating the tumors.

Dr. Robinson thought there was reasonable doubt with regard to the diagnosis. Personally he thought there was something more than a mere neurosis. All sorts of medication had been tried for anæmia, malaria, hysteria, etc., but without benefit, and treatment directed against middle-ear trouble had only aggravated the symptoms. Iodide of potassium had also been given without benefit. When Dr. Starr and Dr. Fisher examined the patient there seemed to have been no ocular trouble, but Dr. Seabrook's examination had been made later, and, taken in connection with Dr. Dench's, led the speaker to the opinion that there was a cerebral tumor or pachymeningitis. There seemed also to be some word-deafness.

Dr. C. L. Dana said that with only a cursory examination of the patient presented, he was unable to confirm or deny the diagnosis made by Drs. Starr and Fisher. He was inclined to think the evidence presented by Dr. Robinson pointed to more than a functional trouble. Still, neurasthenic, hysterical, anæmic women sometimes suffered from headache, neuralgia, and tinnitus for years, and showed no organic lesion.

Perforating Typhoid Ulcer; Laparotomy; Recovery.—Dr. Robert Abbe reported the case (see page 1).

Dr. W. M. Polk congratulated Dr. Abbe on the happy termination of his case. He thought that with the kind of lymph exudate referred to, the chances of recovery were always better. Stress had very properly been laid upon the open method of treatment. He inquired whether it had been practised in the cases quoted, or whether the abdomen had been closed.

Dr. Abbe said that in the very successful case of Hook the abdomen was closed, but drainage was made through the pelvis below. In the three cases in England the perforated gut was stitched to the abdominal wound and the latter was closed up to that point. Dr. Abbe left the abdominal wound quite open in his case, simply closing that in the gut by the quickest way possible, dropping it back, and tamponading with gauze. Rapid closure took place, as usual, under this method.

DR. DELAFIELD: I understood there was leakage of fecal matter after the operation.

DR. ABBE: That probably occurred from the action of calomel, but not until the third day. The fluid fæces flowed out on the peritoneum two or three weeks, but it did not disturb the patient.

DR. DELAFIELD: Then she had a fairly resisting peritoneum.

DR. ABBE: But it was all blocked up by lymph.

DR. POLK thought that stitching the coil of intestine to the abdominal wall would complicate recovery. In his experience it had done so, and he was of opinion that the open method was the ideal one for these cases. Of course recovery might take place by closing the abdomen, as in the case in Chicago, but he thought the chances were more in favor of recovery if the abdomen were left open.

DR. WEIR inquired what was the percentage of recoveries in cases of typhoid perforation without operation. In several of the cases which he had seen reported in the journals from time to time the fact was remarked upon as to the ease with which inflammatory thickenings in the gut could be recognized through the peritoneal coat. This might be of importance in detecting points of beginning perforation, and also in the surgical treatment of hemorrhage of typhoid fever.

DR. GEORGE L. PEABODY thought it well to bear in mind that the operations for perforating typhoid ulcer which gave a percentage of one recovery in six had been made upon select cases. The average case of perforation in typhoid fever, coming to the attention of the physician, would not, he thought, admit of any surgical procedure whatever. The patient was so near moribund that the mere suggestion of etherization would deter one from interfering. It would, therefore, be erroneous to infer from the percentage of recoveries thus far obtained from operative interference that the same ratio would be maintained if all cases were operated upon.

Regarding surgical treatment of typhoid hemorrhage, he must confess that he was positively against it, for he believed it would kill more patients than it would save. Many patients had hemorrhage and recovered with no other interference than, perhaps, the application of cold over the abdomen.

DR. BRYANT said he had had no experience with perforation due to typhoid fever, but he wished to express the opinion that the tamponade treatment of the abdominal wound was far the most successful under like circumstances. He would regard it as good luck on the part of an operator who might have recovery follow treatment by closing the abdominal wound.

Perforation Mistaken for Appendicitis.—DR. BRYANT related the case of a man who was brought to the hospital after having been suddenly seized with violent pain in the right side of the abdomen while walking the streets following a debauch. He had first been taken to a drug store, then to his home, and forty-eight hours after the accident entered the hospital. At this time he was in marked collapse. There was dulness over a tumor in the region of the appendix, and general tympanitic distention existed. The patient refused consent to an exploratory incision until four or five hours later. A large amount of pus and white, milky-looking fluid escaped from an incision into the tumor. The cavity was washed out, but nothing more was done, as further interference would have resulted fatally at once. A large drainage-tube and gauze were introduced. The interesting point in the case was revealed at the autopsy, when it was found that the trouble had arisen from a perforating ulcer in the duodenum, the size of a small lead-pencil. It was evident the leakage had run down to the region of the cæcum, and there had become hemmed in by inflammatory products, simulating appendical abscess. In the sac was found much of the milk and food taken into the stomach during life. It was a case, then, in which perforation was taken for appendicitis before and after admission to the hospital.

DR. WEIR remarked that he had seen three cases of perforation of the gall-bladder in which the extravasation had taken the course mentioned by Dr. Bryant, and formed a tumor in the position of a high appendical abscess.

A Bad Time for Operation.—DR. V. P. GIBNEY queried whether the very fact that the patient had typhoid fever did not lessen the chances of recovery from an operation. At any rate, he had observed that children convalescent from the exanthemata, as scarlet fever and measles, withstood even simple operations poorly.

DR. ABBE thought a weak heart-muscle was undoubtedly a bad element in the case, but one was in the face of death and was compelled to operate without regard to time.

DR. A. H. SMITH thought Dr. Abbe's case, and others he had cited, should lead us to hope that in hospitals, where the conditions for operating were perfect, and where no considerable time elapsed between the occurrence of symptoms of perforation and operation, many lives might be saved. To accomplish most it would seem necessary to have a standing order, requiring that the surgical staff should be notified at once when in typhoid cases symptoms of perforation arose, and it should be understood among the surgeons that such cases were legitimate ones for operation.

DR. ROBINSON inquired of the surgeons whether they thought it would be best to operate immediately or to wait a while.

DR. POLK thought that without doubt the patients would stand a better chance of recovery if the operation were done immediately, allowing for shock. Dr. Weir's suggestion was a good one, that in some cases an anæsthetic was not necessary, for often it was the anæsthetic that killed.

DR. GEO. F. SHRADY, after inquiring the time which had elapsed before the operation had been performed in the cases reported, went on to say that he regarded laparotomy as a perfectly feasible operation under the circumstances given in the paper, and he hoped it would become popular. There might be some difficulty in getting the sutures to hold, but he thought the quilted suture would probably prove reliable. Replying to an interrogatory by Dr. Robinson, he expressed the opinion that the earlier the operation was done after perforation and after the primary shock the better.

DR. DELAFIELD thought there could be no question but what, theoretically, the operation was justifiable, for most patients with perforation died if let alone. But he thought the statistics the author had quoted also showed that most patients died when operated upon. That was no reason, however, why they should not become better in the future. He had had some cases operated upon, and the one which seemed to him most favorable for interference had died. It was that of a boy, whose general condition was quite good, and the operation was performed twelve hours after perforation, but death occurred promptly.

DR. ABBE made some concluding remarks. He said the question of recovery after perforation and without operation had been very thoroughly discussed. Although Murchison had seen seventeen cases recover under the opium treatment, scarcely any striking cases of recovery under this plan had been reported by others. Yet Dr. Abbe could see no reason why recovery should not take place occasionally by occlusion or walling in with lymph, especially where the opening was small and the escape of fluids limited. He certainly would not advocate operating during the early stage if shock were still present; but if it were possible to operate at all it should be done as soon as the patient had been calmed by opium, and there had perhaps been slight arrest by local action, such as probably usually took place almost immediately, although he felt personally that the patient should ordinarily be given time to recover from the

the consultation fee shall be collected. Now, for reasons well known to all, the attending physician is rarely paid in a consultation with an expert. One reason for this, it seems to me, is, that the patient regards the necessity for consultation as a confession of ignorance or lack of skill, and hardly cares to pay for what he thinks he does not get. At the same time, none will deny that frequently the duties of the physician in charge are most onerous, and that his knowledge of the case is of material aid to the expert.

Suppose for the sake of illustration the case of an operation done at the patient's home. The time is made to suit, if possible, the consultant, the attending physician sacrifices at least half a day in making necessary arrangements, any extra call, of whatever nature (likely his best patient), is referred to his competitor across the way; if the result is unfavorable his reputation must bear the brunt; the long, tedious after-treatment is charged at half price and paid at less.

The plan I would propose to remedy this injustice, and at the same time cure the commission business, is for the National or State Societies to provide a standard ratio of a joint fee to be charged and so divided in all actual consultations between general physicians and experts. This would do no injustice to the patient, and would secure justice to the attending physician; it would checkmate the wrong in the commission business, *i.e.*, the bidding for patients by the unscrupulous; the slight sacrifice on the part of the expert would be more than balanced by more frequent consultations and a more friendly feeling.

The practical working of the plan proposed is so evident that any illustration is almost superfluous, but to avoid any possible misunderstanding I will say that whenever a consultation is held or an operation done, the consulting physicians should determine on a total fee according to the circumstahces, and then divide it according to a standard previously agreed to, or, if the suggestion here offered is adopted, as determined by the National or State Societies. The division should be as liberal toward the attending physician as possible, at least twenty-five per cent.

Much more might be said in favor of the plan offered, but the above simple statement of facts has cleared up the difficulty for me, and if I see it aright, it needs no bolstering.

HAMILTON MAILLY, M.D.

BRIDGETON, N. J.

VAGINAL HYSTERECTOMY BY ENUCLEATION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Will you kindly allow me to correct a mistake that I note in your issue of December 1, 1894? In a paper bearing the title, "Vaginal Hysterectomy by Enucleation without Ligature or Clamp," the author, J. Riddle Goffe, M.D., expresses the belief that the operation he records, and which was performed October 12, 1894, is the first operation of the kind ever done in New York. Now this statement is misleading if more weight is attached to it than an individual opinion usually commands. As a private belief it records the depths to which current medical literature has been investigated, and is an index of the author's familiarity with what his colleagues are doing. But facts and dates are strange things, and in their face even "I believe" cannot stand.

The truth is, this operation of uterine enucleation, which Dr. Goffe describes with all the detail and enthusiasm of the explorer who fondly believes that he is on ground which others know not of, or are too timid to tread, has been performed many times in New York, both before, and since, October 12, 1894. Speaking from my own experience alone, the operation, with certain modifications, has been a favorite one with me for fully two years, and during the past twelve months all of my vaginal hysterectomies, some thirty-five in number, have been performed in accordance with this principle of enucleation. The modifications of which I speak relate chiefly to securing the broad ligaments, with the object of thus building a floor for the pelvis, and giving additional support to the bladder.

Dr. Goffe seems to have adopted a very similar technique, though I do not wish to suggest that he has followed my practice, of which it would appear he was ignorant, else his "belief" would have shown as much familiarity with modern medical literature as with the writings of Chelius, to whom he credits the operation of uterine enucleation.

Permit me in closing to quote from a paper which I read before the New York State Homœopathic Medical Society, September 26, 1894, and which was published in the *New York Medical Times* for October, entitled "Vaginal Hystero-oöphorectomy for other than Malignant Diseases of the Uterus and Adnexa:" "If the clipping is done close to the uterus, no ligatures will be required on the uterine arteries, for up to this point there need be no hemorrhage to speak of, save possibly from the posterior vaginal artery, and that can be controlled by a running catgut suture, holding together the parietal peritoneum and vaginal wall. My dissection has now reached the ovarian arteries and the Fallopian tubes as they lie between the folds of the broad ligaments; and the uterus hangs suspended in the pelvis by these structures. While it is perfectly possible to remove the entire uterus by continuing this same separation of peritoneal covering and vascular net-work, making the operation practically a bloodless one, I prefer at this stage to lay aside the scissors and to ligate both pedicles, for such we may now regard the parts that hold the uterus, with strong catgut encircling ligatures, leaving one end of each ligature hanging from the vagina. The uterus is then cut out with the scissors. The next step will illustrate my reason for tying the ovarian arteries and Fallopian tubes, and for not continuing the process of dissection with which I began the operation. After assuring myself that there is no hernia of pelvic viscera in the vagina, I draw together and tie the two ligatures already placed, and by so doing approximate and unite the severed broad ligament, each fragment of which contains what remains of its Fallopian tube, the ovary, and ovarian artery. It will thus be seen that at one step, without the loss of time and without the difficulties attendant upon picking up and sewing together the peritoneum, I am able to close the pelvic outlet and to build a strong resisting wall against pressure from above and prolapsus of the bladder."

Truly yours,

HOMER I. OSTROM, M.D.

42 WEST FORTY-EIGHTH STREET.

"PREMATURE DELIVERY OF DEAD CHILD INDUCED BY ACUTE APPENDICITIS."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: My present communication, as it will subsequently appear, bears important reference to Dr. Mundé's article entitled, "Premature Delivery of a Dead Child induced by Acute Appendicitis," which appeared in the MEDICAL RECORD of December 1st.

If you will allow a slight modification of Walter Scott's phrase, I will say of the doctor as the poet said of his hero: "One blast upon his bugle-horn is worth a thousand women." The warning note of this eminent gynecologist will, if heeded, save the life of many a pregnant woman. And since after the publication of that highly interesting article, if a practitioner should be called to a pregnant woman with pain in the right iliac fossa, tenderness over the abdomen, and an unaccountable temperature, "and would not at once think of appendicitis," I would, with Dr. Shrady, stamp him "as one who does not take a medical journal," nor

ever attends his "medical society." However, the history of medicine, like the history of any other science, or art, or men, teaches one important lesson, namely: the great lead, all the rest, in the long run, follow, and patient humanity at first prayerful, but after thankful.

It is my high privilege, in this brief note, to put on record a similar case to that reported by Dr. Mundé; and adopting to some extent the doctor's phraseology, I should style my case: Abortion induced by acute appendicitis.

Although my case dates back many months, yet its merit did not impress me until I read Dr. Mundé's article, and his special emphasis on the "rarity of the occurrence."

Dr. Mundé it was who verified my diagnosis on the table, and he it is now who, in answer to a letter addressed to him, encouraged me to write up the case.

As my letter to Dr. Mundé embodies the history of my case, I shall ask the Editor to kindly print it in full.

December 1, 1894.

DEAR DOCTOR: If you will pardon the presumption, I will call your attention to a slight oversight in your very instructive article in the MEDICAL RECORD of above date.

You say: "So far as I am aware, there is no case on record of appendicitis during pregnancy." Now, I am witness to the fact that you have operated on a woman, in the Mount Sinai Hospital, for appendicitis post abortion; the inflammation of the appendix, however, began before the abortion occurred. I cannot recall the patient's name, nor the exact time I sent her to the hospital. She was on my "district" service.

The history was as follows: About the ninth week, when the woman thought herself pregnant, she began to feel pain in the right iliac region—a history of long constipation preceded this. The pain continued for three days, when she "miscarried." The miscarriage afforded her relief for one day. Thereafter, the pain continued in the same region with increasing severity. I saw the patient for the hospital eight days after the abortion, and eleven days after the appearance of the first pain in the right iliac fossa. At that time she was treated by two physicians for acute pelvic peritonitis following the abortion.

At my second examination I communicated my diagnosis of appendicitis to Mr. Minzesheimer (Superintendent of Mount Sinai Hospital), and had her at once admitted. You operated on her in the evening of the day she was accepted. You found a big appendical abscess, ill-smelling pus, gangrenous appendix, and agglutinated intestines. The case was a desperate one and the result was fatal. The case made a deep impression on me from the peculiar, yet agreeable, manner you complimented me on my diagnosis. (The compliment must remain a secret. . . .)

The importance of this case dawned on me only while I was reading your article, seeing the stress you laid on "the rarity of the occurrence." The history of the case is strictly accurate, as my recollection of it is very vivid.

To day, December 10th, I received a reply from Dr. Mundé, in which he says: "Thanks for your letter. I had hoped to meet you last Wednesday to tell you that I had quite forgotten the case you refer to, or I should certainly have mentioned it, and have given you due credit. Why do you not send a letter to the MEDICAL RECORD embodying the facts? Both of us, and others, will probably hereafter bear this and the other case in mind under similar circumstances."

So far, then, we have two well-established cases of acute appendicitis occurring during pregnancy.

I would be done with my letter, but for one statement in Dr. Mundé's article. He says: "I need scarcely say that the death of the child was due to the high temperature" (104° F.). The doctor then leaves us to infer that a high temperature in a pregnant woman, from any cause whatever, invariably means death to the child in utero. Now, since Dr. Mundé bases his assertion on the one case in question, I wish to cite a counter-case in which the temperature was much higher (106° to 107° F. in the axilla) and was kept up for a longer time, and yet the woman was naturally delivered of a living child and to all appearances at full term. Dr. Mundé may possibly recall that case, for he saw it with me in consultation. It was a case of acute articular rheumatism, characterized by hyperpyrexia and marked tympanites. I delivered the woman, two days subsequent to the consultation, of a bouncing boy. There was no trace of ill-health about the little fellow, although his mother died five days after delivery with a temperature of 109° F. Yours respectfully,

R. ABRAHAMS, M.D.

156 CLINTON STREET, NEW YORK, December 10, 1894.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The article by Dr. Paul F. Mundé, in last week's issue of the MEDICAL RECORD, on "Premature Delivery of a Dead Child, Induced by Acute Appendicitis," with remarks on appendicitis in women, induces me to send you the inclosed report of a somewhat similar case, which, if you deem it worthy, I shall be pleased to see appear in the MEDICAL RECORD.

On July 14th I was called to see Mrs. S——, a multipara, who was in the fifth month of pregnancy. She stated that she had been very constipated, and on the 12th had taken "a large dose of pills" which purged her very hard and repeatedly. Soon after this she suffered some pain in the right side, and became feverish. On the 14th she had a chill, and the pain in the right side became very severe, and distributed over all parts of the abdomen. I found the abdomen tympanitic and very tender. Hot fomentations, opium, and sulphate of magnesia were ordered. On the 15th she seemed better, and a more thorough examination could be made. Some induration and much tenderness could be made out in the right iliac fossa. No fever. Until the evening of the 16th she seemed fairly comfortable. At this time she had a second chill and suffered great pain. Uterine contractions set in soon after, and continued through the night. Temperature rose up to 104° F. Abdomen excessively tender, and incessant spinach-green vomit. The fœtus was delivered about 9 A.M. on 17th, and the placenta removed with some difficulty. Hot fomentations, opium, and sulphate of magnesia repeated. The graver symptoms subsided promptly, and it was deemed advisable to defer operation until the woman could recover from the shock of labor. On the 21st she had some fever and considerable pain, and operation was set for next day. On the 22d, with the assistance of Drs. T. Shaw and Getty, I opened the abscess freely, and after irrigation drained with iodoform gauze. The after-treatment did not differ from ordinary cases of appendical abscesses. Recovery was rapid and complete.

ARCHIBALD C. HARRISON, M.D.

MEYERSDALE, PA., December 8, 1894.

IS MALARIA A WATER-BORNE DISEASE?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have read, with great interest, the late discussion in your most excellent journal, in regard to malarial infection from water. I write this to show that in my experience malarial disease has not been carried by water in one instance at least. This ship left New York December 26, 1893, for Rio de Janeiro, Brazil, and arrived at St. Lucia, West Indies, January 1, 1894. From that time until April 1st, the ship touched at only two places, Rio de Janeiro, Brazil, and Bahia, Brazil. No one was permitted to go on shore at either of these places and no drinking-water was allowed on board from shore. The drinking-water was all dis-

tilled on board and was rarely in the tanks more than a few days or a week before being used. It will be seen that it was a physical impossibility for it to absorb or contain malarial poison. But in a crew of five hundred and fifty men there were sixty-two cases of malarial fever; varying in intensity from a mild intermittent to a severe remittent. Respectfully yours,

E. KERSHNER,
Medical Inspector United States Navy; Fleet Surgeon, N. A. Station.

FLAG SHIP NEW YORK,
NAVY YARD, NEW YORK.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have read with great interest the discussion on the sources of malarial infection. Permit me to give my personal experience in support of Dr. Daly's idea that malaria is a water-borne disease. A brother of mine lives along the Jersey coast where malaria is prevalent. He used to suffer from an attack every year; also other members of his family suffered. I lived with him four years and never had an attack. The reason was I am in the habit of drinking boiled water, never cold. After I had convinced them that the water had some connection with the disease, and had insisted upon their using boiled water, they have been free from the disease for the last five years. It is very possible, as Dr. Jones points out (MEDICAL RECORD, December 1st), that the malarial germs may be disseminated by every agency that circulates, but I am positive that water is one of them.

L. W. ZWISOHN, M.D.

326 EAST SEVENTY-EIGHTH STREET.

New Instruments.

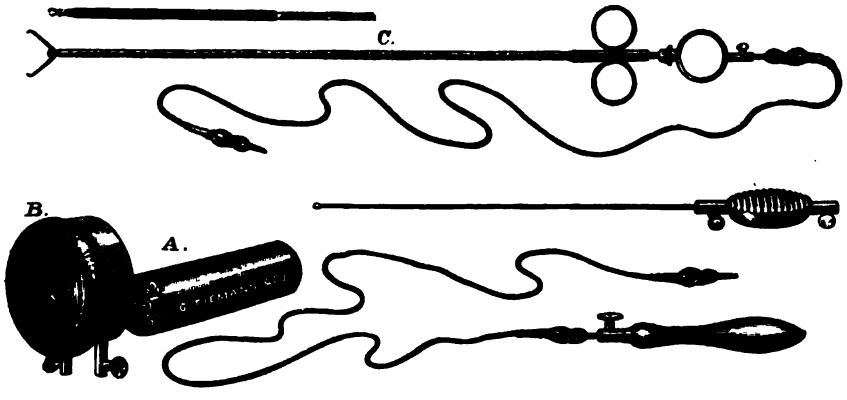
TELEPHONE BULLET-PROBE AND FORCEPS

BY H. M. WELLS, M.D.,

MEDICAL DIRECTOR UNITED STATES NAVY.

I DESIRE to call the attention of the profession to a telephone bullet-probe and forceps combined. In experimenting with Dr. J. H. Girdner's telephone bullet-probe I had great difficulty in hearing the ticking when the probe came in contact with the bullet.

Dr. Girdner considers the body of the patient to be a sufficient battery for this purpose, but repeated tests of his instrument, in the presence of several surgeons, convinced us that the current was not strong enough. I have, therefore, attached a one-cell dry battery in the form of a handle, A, to the receiver B, which can be detached when not in use, and which now responds almost as loud as an ordinary telephone and leaves no doubt about the contact of forceps and bullet. Instead of probing for the bullet, and, when detected, inserting the ordinary bullet forceps, which involves more time, patience, and pain, I have combined the two instruments in one, so that the moment the bullet is struck and heard in the receiver it can be seized by the forceps and withdrawn.



The combined probe and forceps, C, is flexible, to follow the course of the bullet, and is insulated with thin rubber to prevent any particles of metal which, from any source, may be in the wound or tract, deceiving the ear at the receiver while searching for the bullet. These particles, if of sufficient size to be grasped, can be removed in the same way.

George Tiemann & Co., instrument-makers, have embodied these ideas in a complete, compact, and beautifully finished instrument, a single trial of which, I am convinced will give great satisfaction.

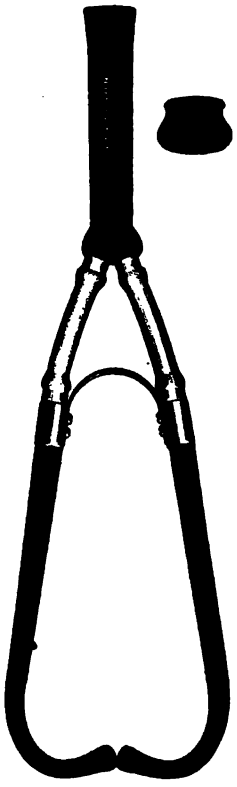
I do not wish to detract any merit from Dr. Girdner's most valuable application of the telephone to bullet-searching, I only desire to make it a little more practicable.

AN IMPROVED BINAURAL STETHOSCOPE AND IMPROVED SOFT-RUBBER BELL.

BY R. K. VALENTINE, M.D.,

BROOKLYN HOME FOR CONSUMPTIVES, BROOKLYN, N. Y.

THE description of this instrument was published for the first time in the New York MEDICAL RECORD, July 16, 1892, since which time improvements have been added.



The stethoscope is composed of hard rubber, the bell and ear-pieces are united by two sections of soft rubber tubing of superior quality, each about three and one-half inches long, and being perfectly flexible, the instrument is readily carried in the pocket. The bell consists of two parts, the lower of which is a tube four and one-half inches long, and having a bore of seven-eighths of an inch at its mouth, and five-eighths of an inch at the upper part, where it is screwed into the top section. This top section is five-eighths of an inch long, and has two canals, one-fourth of an inch in diameter, perforating the top and diverging as they pass upward. These two canals are separated at their origins only by a thin septum of hard rubber. The ear-pieces are perfectly straight up to the points where they are curved inward so as to enter the external ears. They have a bore of one-fourth of an inch at their lower extremities, and running upward the canals are cone-shaped and reduced to one-half of that diameter at the ear-tips. The ear-pieces are joined together by a simple flat steel spring.

The expense of making this stethoscope and its superior transmitting qualities are largely due to the perfectly smooth internal finish of all the hard-rubber parts. With the instrument in use the waves of sound pass upward through the long bell, are divided at the top by the sharp rubber septum separating the canals mentioned, and the divided sound-waves are transmitted in two straight lines to the curves which lead them directly into the ears of the operator.

Recently a small, soft-rubber bell has been added, which, we think, is of some practical value. The diameter at the mouth is not greater than that of the hard-rubber bell, and thus covers the same circumscribed

space under examination. It is made of pure rubber and has a flexible edge, which readily adapts itself by slight pressure to uneven surfaces, such as we find in patients whose chests are greatly emaciated, and where the hard-rubber bell is consequently valueless. Again, it is serviceable, as pointed out to me by Professor James Tyson, on patients whose chests are very sensitive even to the light pressure of a hard bell. In order that the soft-rubber bell may be always at hand, we would suggest unscrewing the hard rubber bell from the top and sliding the soft one down upon it.

A simple method of comparing the transmitting power of stethoscopes is to place the ear-tips in position in the ears and the bell upon the face of a watch or a clock.

Mr. H. A. Kaysan, of 34 Bond Street, Brooklyn, N. Y., has taken the greatest pains to follow my every instruction in the manufacture of this stethoscope, and so successful has he been that I have given him a certificate to that effect, which he will send out with each instrument.

Medical Items.

Contageous Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 29, 1894.

	Cases.	Deaths.
Tuberculosis	104	95
Typhoid fever	23	5
Scarlet fever	102	8
Cerebro-spinal meningitis	3	3
Measles	78	4
Diphtheria	198	39
Small-pox	5	1

The Journal of Medicine and Science is the title of a new medical monthly published at Portland, Me., and edited by Drs. E. E. Holt and J. A. Spaulding. It is the organ of the Maine Academy of Medicine.

The Medical Laws of Massachusetts.—It appears that the laws pertaining to the practice of medicine in Massachusetts provide, among other things, that doctors shall be classed as follows: Class A certificate includes all doctors who are graduates of a recognized medical school and can show diplomas. Class B certificate includes doctors who cannot show a diploma, but have been practising medicine for the past three consecutive years. Class B claims that Class A through influence, is favoring legislation against them in the pursuit of their business.

Hence they called a secret meeting to devise means to protect themselves; the doings of which the *Boston Journal* found out and published in two columns. There should, says the *Journal of Medicine*, ultimately be no class in medicine except first class, and this should include those who are thoroughly educated in the fundamental branches of medicine, are honest, and conduct themselves like the true gentleman at all times.

A Public Bulletin Regarding the Care of the Eyes.—The physicians of Dubuque have issued the following curious circular: "1. Glasses for the correction of visual defects are demanded for a variety of reasons, some of which pertain to the ordinary changes in the refractive media incident to advancing age or otherwise, and some of which are due to true disease of the eye which from the nature of the case are far more serious, requiring for their proper treatment the services of one properly equipped in that department. 2. We believe that the one intrusted with the care of so important an organ as the eye should understand not only the mechanical methods of adapting glasses to the common refractive errors, but also the far more important and intricate diseased conditions, for the proper appreciation of which a knowledge of anatomy and physiology and the principles of medicine are absolutely essential. 3. We have, as residents of our city, men who, in our opinion, are exceptionally well fitted, not only to recognize and correct the ordinary refractive errors, but also to diagnose and treat properly diseases of the eye. We think it due to the public not less than to these gentlemen to bear this testimony."

This seems to be designed to warn the public against opticians.

Experiments with Mosquitoes in Mississippi.—Mr. Howard Weed, of the Agricultural College, Mississippi, has had some success in the abatement of mosquitoes by the free use of kerosene upon tanks of water and in other positions which he mentions. He says (*Insect World*): "Wishing to demonstrate the effectiveness of the remedy which I had recommended, I took a large glass jar and filled it nearly full with water from one of the tanks, which was fairly alive with the mosquito larvæ. The jar contained several hundred of the larvæ and I took it to the college physician, poured a little kerosene into the jar, and asked him to please watch the effect. This was as expected, for within fifteen minutes all the larvæ were dead. Some of the tanks for fire purposes were in dark attics and relatively free from larvæ. Four tanks had them in large numbers. Mr. Weed treated these with a gallon of kerosene, and ten days later the mosquitoes were nearly all gone from the campus and the collegians were able to dispense with the mosquito nets. Three weeks later some of the tanks were again dosed. Upon all the out-door tanks a thin film of kerosene has remained since the kerosene was put in. The campus is now nearly free from mosquitoes and has been so since ten days after the kerosene treatment. Hereafter during the summer, kerosene will be put in the out-door tanks, putting in enough to keep a thin film over the top of the water."

If Mr. Weed can successfully apply his methods to certain parts of New Jersey and Long Island, he will make countless hundreds smile and raise the price of real estate.

An Exhibition of Miraculous "Cures" has been taking place in Paris. Fifteen persons who declare that they were miraculously cured at Lourdes of terrible diseases presented themselves for inspection at a lecture given by Dr. Boissarie of the Bureau des Constatations at Lourdes. Dr. Boissarie's object was to refute various statements made by M. Zola in his book on Lourdes, and in order to prove that the cures which take place at the scene of Bernadette's visions are truly miraculous he brought from various parts of France fifteen persons healed within the last two or three years at Lourdes of diseases which medical science had pronounced incurable. Among these was the young woman, Marie Lemarchand, who figures in M. Zola's book as Elsie Rouquet. She went to Lourdes horribly disfigured with lupus, which had partly destroyed her nose and mouth and had spread over her whole face. Zola gives a realistic description of her appearance, which is anything but pleasant reading. It was, nevertheless, read at the meeting, and then Marie was asked to stand up and show her face. As she did so there was a general exclamation of wonder. The victim of lupus whom the doctors had abandoned had become again quite a pretty, fresh-faced country girl, whom medical men declared to be perfectly healthy. Another subject was a man who was pronounced at the Salpêtrière Hospital to be suffering from paralysis and blindness, caused by atrophy of the optic nerves. He went to Lourdes, and recovered his sight and health instantaneously. Then there was a girl who was cured of a cancer which was so bad that a surgeon refused to operate upon it, and another of a

wound in the foot caused by caries of the bone. This procession of "miraculés," and the medical diagnoses and certificates which were read, produced an extraordinary impression. The audience was largely composed of doctors and medical students.

One Hundred and Seven Intubations.—Dr. W. B. Pusey reports this number of intubations done for the relief of membranous laryngitis (*American Practitioner and News*, October 6, 1894). The ages of the children varied from under one year to nine years. The report was not of selected cases but included all those in which a tube was introduced, some few of the patients being almost moribund when operated upon. In no case where intubation failed was it believed that tracheotomy would have been of any avail. Of the 107 cases there were 48 recoveries, a little over 44.8 per cent.

The Blessedness of Beards.—It is to be feared that too many men deprive themselves of what Shakespeare calls "valour's excrement," without counting the possible cost. Whether the beard be an ornament to the masculine countenance we must, says the *British Medical Journal*, leave the ladies to decide; it certainly has its uses in hiding a weak chin, and in some cases it seems to be cultivated as a vicarious compensation for a hairless scalp. It is not, however, in its cosmetic so much as in its hygienic aspects that the blessedness of the beard—in which term we include the whole of the harvest usually claimed by the razor—is most apparent. That it is a safeguard to the throat is generally admitted, and writers of authority have insisted on its value as a protection against toothache and facial neuralgia. This is a goodly sum of advantages to the credit of the beard. Dr. Chabbert, of Toulouse, has, however, yet more to say in its favor. According to this practitioner the beard seems to be a very efficient defence against that form of facial paralysis which is caused by cold. This affection is far more common in women than in men, though the latter are, of course, much more exposed to the cause which produces it. When facial paralysis *a frigore* does occur in men, they are almost invariably individuals to whom Nature has been step-motherly in the matter of beard, or who have wantonly thrown away the protective covering with which she had clothed their faces. Dr. Chabbert cites the experience of several physicians, in addition to his own, in support of his opinion. Professor André, of Toulouse, has seen several cases of the affection in question in women, but not one in man; he has heard of one, indeed, which would appear to be an excellent example of the exception which proves the rule, for the patient was a "lyric artist," with the *faccia di musico* so distasteful to Lord Byron. Professor Pitres, of Bordeaux, has seen twelve cases in women and only two in men; both the latter shaved, though as one of them underwent that operation only twice a week, his case perhaps does not count for much unless it be held that his face was more vulnerable after these periodical denudations. Similar observations are quoted from Dr. Olivier, of Toulouse, and Dr. Sudre, of Carmaux. These facts, though hardly sufficient to found an induction on, seem, at least, to establish a *primâ facie* case for the utility of the beard against facial paralysis of the kind referred to. In these days, when man's traditional privileges are one by one being invaded by the "new woman," he may perhaps be forgiven for making the most of such advantages as may be considered exclusively his own.

The Historical Case of Diphtheria.—Shortly after Louis Bonaparte had taken up his residence in his new kingdom of Holland his eldest boy was seized with croup—most probably diphtheria—which proved fatal. Napoleon heard the news about a week before the battle of Friedland, and was so much affected by it, that he at once commanded that steps should be taken to offer a prize for the best essay on Croup, its Origin, Nature, and Treatment. The prize was 12,000 francs. Eighty-three essays were received. Dr. Cabanès has recently examined some of them, and declares that even the two which divided the prize display how extraordinary was the ignorance in those days of a disease which was certainly common, and well known to be fatal. Yet there were many good clinical observers in France at that date. Two results naturally followed the action of the great conqueror. In the first place nothing new was found out about croup; secondly, all the unsuccessful candidates were indignant. The son of Constant, Napoleon's valet, died of croup shortly after the award. Why, said the defeated essayists, were not the recommendations of the successful writers carried out by the physicians who awarded the prize?

Charcot's Pathological Museum.— Professor Raymond, Charcot's successor, in his opening lecture at the Salpêtrière, sketched the career of his distinguished predecessor and the development of his service at the Salpêtrière. Charcot felt a glow of pride when he announced to his pupils that his service could boast of an anatomo-pathological museum with a studio for taking casts and photographs of pathological specimens, limbs, etc. M. Raymond made a slight digression to tell his listeners that this laboratory, so vaunted by Charcot, was in reality only an ill-lighted narrow passage insufficient to meet the wants of the service. Dr. Raymond has, with the co-operation of the Dean of the Medical Faculty, the Director of the Public Assistance, and the Director of the Salpêtrière, succeeded in organizing a fresh laboratory, which does not realize his ideal, but nevertheless is spacious and well lighted. Dr. Raymond looks forward to the establishment of laboratories of applied psychology and therapeutics, and to the thorough reorganization of the laboratory of electrotherapy.

The Need of a Registration Law in Maine.—Every month brings to the observation of investigating physicians (says *The Journal of Medicine and Science*) some new insult to the State of Maine as well as to the medical profession in one way or another. The most recent case that has come to our notice, of medical quackery, is this: A few weeks ago a travelling "oculist" in the western part of the State, was permitted, in these advanced days of medicine and surgery, to advertise himself as an oculist who had studied in Europe and New York, and after fitting bad lenses on all whom he could dupe, to operate on a case of squint, with bad results, and to decamp with his fee before he could be punished. This injury to the patient and insult to the skilled specialists in Maine could not have been accomplished if there had been a law compelling all medical men to be registered before receiving permission to practise. More than this, and a greater disgrace to the community, the patient who suffered injury from such an operation done without aseptic surgery, was disinclined to trust her eyes to such a traveller as this, and only did so on the assurance of her clergyman that he was good. When the one man in the community whom one might expect to have some knowledge above the ordinary dweller in the country, falls so low as to recommend a travelling eye doctor, without any qualified residence, what can we expect from the man or woman of ordinary intelligence? Still another recent case is that of a travelling "oculist" from New York, who insisted on operating on both cataracts of a woman, without preliminary treatment, and without proper rules of modern surgery, and with the result of no recovery of vision in either eye. The fee for the operation collected, the wanderer departed for other scenes, and naturally his name is not in any New York directory. A registration law could have prevented this robbery not only of money, but of the chances of sight being restored by skilful treatment. But this is no better than the barber surgeon oculists of the sixteenth century.

Medical Record

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Original Articles.

THE TREATMENT OF DIPHTHERIA, INCLUDING SERUM THERAPY.

BY H. W. BERG, M.D.,

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THE term diphtheria, up to a decade ago, had so vague a significance that even the best authorities were not agreed as to what clinical or pathological conditions were embraced under it. While some gave the name to all so-called croupous inflammations of mucous membranes with the production of pseudo-membrane, others limited the term to an acute infectious disease of a constitutional character with local, generally throat, lesions, the local lesion being generally characterized by the production of false membrane. The researches of Klebs,[1] Loeffler,[2] Prudden,[3] Roux[4] and Yersin, and a host of others, have taught us much more about the nature of diphtheria than is known about perhaps any other acute infectious disease. They have taught us that while clinically true diphtheria resembles other similar conditions embraced under the term of pseudo-diphtheria, the two groups of affections are radically different in their etiology viewed from a bacteriological stand-point.

Although the purpose of this paper is not to study the bacteriology of diphtheria, but rather its treatment, yet, in view of the light thrown upon the treatment of diphtheria by our knowledge of the bacteria which cause it, an apology for prefixing a *résumé* of the main points in the bacteriology of diphtheria to a paper on the treatment of the disease is hardly necessary. In 1883 Klebs first described a characteristic bacillus, which he had found in the false membrane in the throats of patients dying from epidemic diphtheria. In 1884 Loeffler carried these investigations much further, confirmed Klebs's discovery of a characteristic bacillus present in the pseudo-membrane of fatal epidemic diphtheria, and succeeding in isolating the Klebs bacilli from the bacteria accompanying it, obtained the bacillus in pure cultures. He was able to inoculate the abraded mucous membranes of the trachea of susceptible animals with pure cultures of this bacillus, and thus obtain the local manifestations of diphtheria and subsequent death; while the hypodermatic injection in guinea-pigs of a quantity of bouillon culture of the bacillus resulted in death with the customary lesions of diphtheria. Park describes these bacilli as varying in diameter from 0.3 to 0.8 μ., and in length from 1.5 to 6 μ. They occur singly and in pairs, and very infrequently in chains of three or four. The rods are straight or slightly curved, and usually are not uniformly cylindrical throughout their entire length, but are swollen at the ends, or pointed at the ends and swollen in the middle portion. Even from the same culture different bacilli differ greatly in their size and shape. The two bacilli of a pair may lie with their long diameter in the same axis, or at an obtuse or an acute angle. The bacilli possess no spores, but have in them highly refractile bodies. They stain readily with the ordinary aniline dyes, and retain their color after staining by Gram's method. With an alkaline solution of methyl blue, the bacilli, from blood-serum cultures, especially, and from other media less constantly, stain in an irregular and extremely characteristic way. The bacilli do not stain uniformly. Loeffler did find some cases of so-called diphtheria in which these bacilli were not present, and in the light of our present knowledge it would have been remarkable if every case examined had shown the characteristic bacilli. For cases of pseudo-diphtheria are not distinguishable clinically from true diphtheria, so that presumably some of the cases examined by Loeffler were cases of pseudo-diphtheria. In this way, too, we can account for so excellent an observer as Dr. Prudden being unable to confirm, in a series of fatal cases of diphtheria taken from New York hospitals, the results obtained by Loeffler. Most of Prudden's cases were diphtheria complicating scarlatina, which in most cases is only so-called streptococcus diphtheria. But in his second contribution to the study of this subject this same authority has confirmed the findings of Loeffler. It remained for our own city, however, to test the question of this constant occurrence of Loeffler bacilli in true diphtheria upon a scale hitherto unequalled. In 1893 the New York City Board of Health instituted a series of accurate bacteriological examinations of all cases of suspected diphtheria reported to the Board as occurring in the city of New York. This work was performed under the direction and supervision of Dr. Herman M. Biggs, by Dr. William H. Park and Mr. Alfred L. Beebe, and from the report of these latter gentlemen to Dr. Biggs[1] much interesting and valuable information concerning diphtheria that occurred from May 4, 1893, to May 4, 1894, can be gleaned. There were 5,611 cases of diphtheria reported and investigated bacteriologically, in which Loeffler bacilli were present in 3,255 of these, in 1,540 no Loeffler bacilli were found. Eight hundred and sixteen cases showed no Loeffler bacilli, but for many reasons; probably often through faults of technique in inoculating culture tubes, and for other reasons, the results of the investigations were unreliable. Excluding these cases then, about sixty-eight per cent. of the cases reliably observed were cases of true diphtheria, as shown by the presence of the characteristic bacillus, overwhelming evidence, even if no more were learned from these investigations, that the Loeffler bacillus is the active agent in the production of true diphtheria. The belief, then, that the Klebs-Loeffler bacillus is the specific infectious agent in diphtheria rests upon the following data:

1. It has been seen by every competent observer, and in enormous numbers of cases, at the site of the pseudo-membrane, both by cover-glass examination of the exudate, and by examination of cultures made by inoculating culture-tubes with the exudate.

2. This bacillus is found only in true diphtheria, or in diseases complicated by true diphtheria; although Park concludes, from a series of investigations, "that virulent diphtheria bacilli are to be found in the throats of a small proportion of healthy persons throughout the city, and that they have been derived either directly from diphtheria cases or from those who have been in contact with them."

[1] Klebs: Verhand. des Zweiten Congres f. In. Medecin. 1883.
[2] Loeffler: Mittheil. aus d. Kais. Gesundheitsamte. Bd. 2. 1884.
[3] Prudden: American Journal of the Medical Sciences, 1889.
[4] Roux and Yersin: Annal. de l'Inst. Pasteur, ii., 1888–1890.

[1] MEDICAL RECORD, September 29, 1894.

3. Pure cultures of this bacillus induce characteristic diphtheritic inflammations when inoculated into certain of the lower animals, followed by local paralysis and other clinical manifestations of true diphtheria. Thus when such inoculations are made into the trachea of rabbits they cause membranous croup and tracheal pseudo-membrane, with œdema and swelling of the tissues and swelling of the glands of the neck.

Loeffler, Welch and Abbott,[1] and others have found that when susceptible animals are inoculated with pure cultures of the diphtheria bacillus, and diphtheria results, the bacilli are only found at the site of the inoculation. Cultures made from the blood of affected animals never showed bacilli. Martin, Behring, and Frosch, however, have found, although rarely, bacilli in the blood of animals thus affected.

It would thus appear that in true diphtheria we have an acute infectious disease with constitutional and local symptoms; the local inflammation is very generally characterized by the production of pseudo-membrane, in and about which Klebs-Loeffler bacilli are found. Sometimes, however, these bacilli are found in throats that show no sign of false membrane, but have simply a congestion and swelling of the mucous membrane, with more or less constitutional manifestations. Most observers agree, Park among others, in considering that the presence of the Loeffler bacilli, with inflammatory swelling of the mucous membrane, is sufficient to stamp these cases as true diphtheria, and that they should be so treated. The well-known constitutional symptoms frequently so great as to cause death from the severity of the septic manifestations, or in other cases well-known sequelæ due to a profound toxæmia of the nervous system, and to inflammatory changes in distal organs, logically render it absolutely necessary to suppose that since the pathogenic bacillus is only found locally at the site of the lesion in the mucous membrane, the constitutional symptoms are the result of some toxic agent produced by or under the influence of the bacillus, and spread throughout the system by the lymphatics and blood. Experimentally a bacillus which destroys the life of a susceptible animal when injected beneath the skin or mucous membrane, and which gives rise to severe constitutional symptoms at a distance from, although itself only present at, the point of injection, must owe its power to the production by its agency of a toxic material which is carried by the lymphatics and circulation to distant parts of the body.

In 1888 Roux and Yersin made observations tending to show the pathogenic power of cultures of Loeffler bacilli filtered through porous porcelain. In a later contribution to the study of this subject they showed that the reaction of recent cultures which had been filtered was acid, while old cultures similarly filtered had an alkaline reaction; the recent-filtered acid cultures were less harmful, comparatively, than old alkaline reacting cultures, when injected into animals. As to the chemical nature of the poison present in these filtered cultures of the true diphtheria bacillus Roux and Yersin believe that it is a diastase. The toxic power of this poison is very much reduced by exposure to a temperature lower than 58° C. for two hours, while subjection to a temperature of 100° C. for twenty minutes completely destroys it. This toxin is insoluble in alcohol, and can be precipitated by alcohol from old cultures. It appears to be an albuminoid substance, but its exact composition is unknown. We have, then, clinically, in true diphtheria, to treat a communicable infectious disease, which is characterized by a local lesion at the site of the Loeffler bacilli, and constitutional symptoms due to the pathogenic activity of a tox-albumin brought into existence by the influence of the bacilli. It will, therefore, be proper to discuss the treatment of the affection under the following heads:

[1] Bulletin of the Johns Hopkins Hospital, February and March, 1892.

1. The prophylactic and preventive treatment, including the discussion of the conditions under which the disease is communicated from one to another.

2. The treatment of the local lesion.

3. The treatment of the constitutional effects of the pathogenic action of the toxin secreted by the Loeffler bacilli.[1]

Prophylactic Treatment.—In the prophylactic treatment of true diphtheria we have the advantage of knowing the pathogenic factor we have to combat, namely, the Loeffler bacillus. This bacterium, as I have already stated, is found for all practical purposes only at the site of the local lesion; in the vast majority of cases this is in the throat and upper air-passages. We find it most plentifully distributed in and about the pseudo-membrane. Shreds of this membrane are the fruitful nidus of the bacterium. Competing, however, with the false membrane in respect to a plentiful deposit, are all the discharges from the site of the pseudo-membrane, and even on the surface of mucous membranes in the neighborhood of the disease, not the site of pseudo-membrane, the Loeffler bacilli can be readily obtained by culture. In eighty per cent. of cases occurring in New York City, during the past year, of so-called croupous laryngitis, Loeffler bacilli have been found by simply swabbing the posterior wall of the pharynx. Thus the discharges from the nose, mouth, throat, and larynx of patients suffering from true diphtheria are highly infectious, and through them the disease is communicable. Not only is this the case, however, but the throats of those coming in contact with patients suffering from diphtheria have been found to contain Loeffler bacilli while in health. In some of these diphtheria developed later on; in others diphtheria did not develop in the affected individual, but contaminated other persons with true diphtheria. Park estimates that "virulent diphtheria bacilli were present in about one per cent. of the healthy throats in New York City at the time of these examinations (May, 1893, to May, 1894), and most of the persons in whose throats they existed had been in direct contact with cases of diphtheria." "The members of a household in which a case of diphtheria exists should be regarded as sources of danger, unless cultures from their throats show the absence of virulent diphtheria bacilli." As to the length of life of these bacilli after they have been discharged from the body, it is found that their virulence persists for a long time. Loeffler and Park found that the true diphtheria bacillus maintained its life upon blood-serum for seven months. Roux and Yersin found that they maintain their life in dried shreds of membrane for twenty weeks. Thus the dried sputum upon clothing, toys, and the like might infect five months after the clothing had been worn by a diphtheritic patient. In my own practice two severe cases of diphtheria had been treated late in spring, and on recovery the patients were sent away to the country. The sick-room was not again occupied until November; it had been in the meantime thoroughly fumigated. Two weeks after the return of the children to this room, a severe attack of membranous croup occurred in the youngest child, of which the little patient died.

A proper bacteriological examination is the most important factor in the prevention of diphtheria. The method of making a bacteriological examination of the discharges from a suspected case is as follows: A sterilized swab of cotton and tube containing sterile solidified blood-serum are the necessaries for making a culture. The swab is rubbed gently but firmly against the suspected mucous membrane if no exudate be visible, then immediately on removal inserted into the serum tube, and the wet portion of the swab rubbed gently and yet thoroughly upon the surface of the serum. Thus the culture tube is inoculated. This tube is then placed in an incubator, and kept at 37° C.

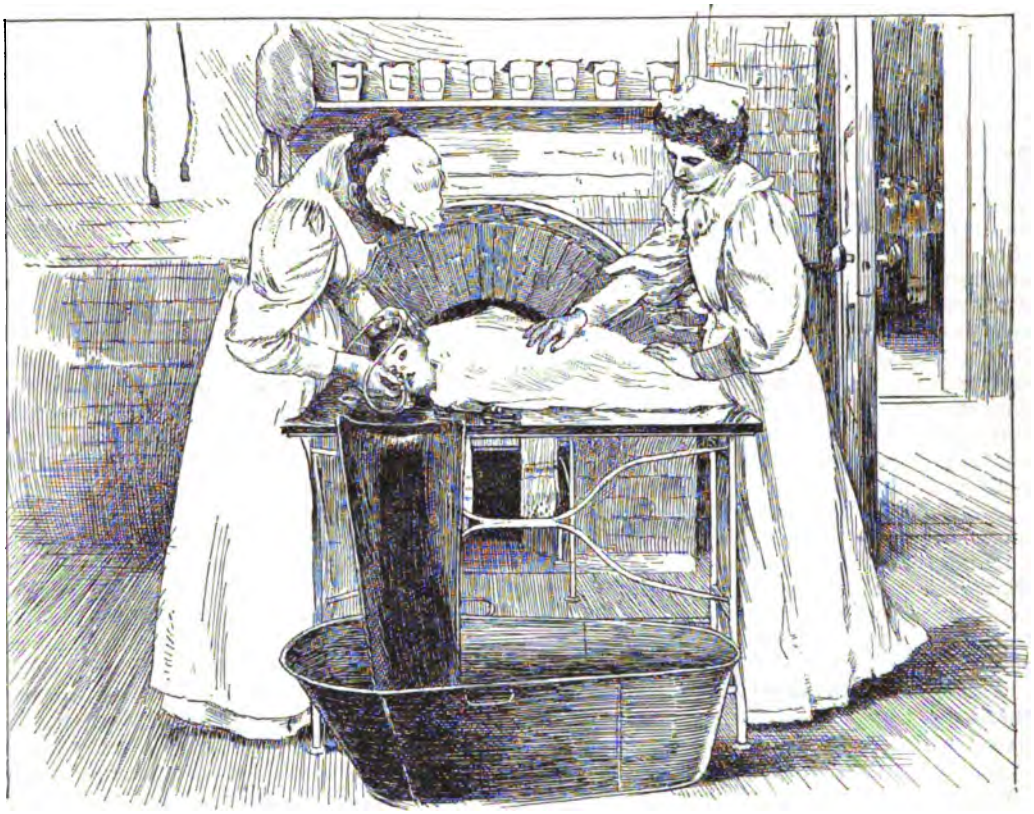
[1] Annales de l'Institut Pasteur, 1888.

for twelve hours. It is then ready for examination. A slide is then made for the microscope. A trace of water is placed upon a clean cover-glass; a sterilized platinum needle takes up a little of the surface of the culture medium where most of the colonies have grown; this needle-point is rubbed upon the drop of water on the cover-glass, until the bacteria are supposed to be evenly distributed upon it. The cover-glass is allowed to dry in the air. It is passed rapidly three times through the Bunsen flame, covered with a drop of Loeffler's solution of alkaline methyl blue, and allowed to dry for ten minutes. It is washed in clean water, dried, and mounted in balsam. It may be examined with $\frac{1}{12}$ immersion lens.

We find that the patient himself is the most fruitful source of contagion. Those who come in contact with the patient, including the nurses, relatives, and friends, and even the physician, are further agents for spreading the bacteria, and, thirdly, that the furniture, utensils, clothes, and even the walls themselves, become contaminated with shreds of membrane and discharges containing Loeffler bacilli, and that all of these may become sources of infection to those in health.

As to the question how long the patient is a source of contagion, that depends upon the length of time that the bacilli can be obtained by culture from diseased mucous membranes. The bacilli persist in most cases after the pseudo-membrane has disappeared. The length of time that they persist varies partly with the severity of the case, partly with local treatment adopted. Of 605 cases that recovered, Park and Beebe found that in 304 the diphtheria bacilli disappeared within three days after the disappearance of the exudate; in 176 cases the bacilli lasted for seven days; in 64 cases, for twelve days; in 36 cases, for fifteen days; in 12 cases, twenty-one days; in 4 cases, twenty-eight days; in 4 cases, thirty-five days; and in 2 cases, sixty-three days after the disappearance of the exudate. In all of these convalescent cases the Loeffler bacilli, although growing gradually less numerous and becoming more admixed with cocci, are still virulent generally to the end. It becomes highly important as an element in prophylactic treatment to maintain the isolation of cases of true diphtheria as long as any Loeffler bacilli are found. Accordingly, at the Willard Parker Hospital the resident staff make cultures from the throats of convalescents at frequent, almost daily, intervals after the disappearance of the membrane, in order to discharge the patient as cured only when several days have elapsed without the finding of diphtheria bacilli in the cultures. Although this adds a great many days of hospital care to individual cases, it prevents the carrying of infection to healthy friends outside. It would be well if the laity could understand that a case of diphtheria should remain isolated until the absence of diphtheria bacilli in the throat has been proved.

Now as to the patient's friends, nurses, and physician looked upon as a source of contagion. It may be taken for granted that in everything the patient's clothes, skin, hair, fingers, mouth, etc., touch, there is a strong probability of some bacilli being caught, for the patient contaminates his own body, together with his surroundings with pseudo-membrane and discharges, which dry on his person and surroundings and are thus taken up by others. All the more is this true because the little people whom diphtheria has chosen for its own, are not old enough to be the subjects of active personal cleanliness. It follows, therefore, that those engaged in nursing the patient should be, as far as possible, isolated from other people. The physician above all people should guard himself from contamination, if not for his own sake for that of his *clientèle* and friends. At the Willard Parker Hospital it is the custom, before entering the diphtheria wards, for the physician to envelop himself in a muslin gown with a hood over his head. This gown has been previously sterilized by baking; it is long enough to reach almost down to the heels of the shoes—these latter are covered with ordinary rubbers. Thus clothed the physician enters the hospital ward. I have made it a rule in private practice, in lieu of the gown, to have plenty of towels to facilitate the handling of the patient. His body is not touched by my bare hand without the intervention of a clean towel; whether it be the head or the face or the wrist or chest of the patient that must be handled, it should always be with the intervention of a towel. A towel should be placed upon the chair upon which the doctor sits, and another one folded upon his lap. All instruments used for examining the throat and nose should be previously and afterward sterilized, and a solution of creolin or bichloride of mercury used to wash the hands immediately after leaving the apartment. As far as the friends are concerned, the best of all precautions is isolation. That this cannot be complete in the present state of society, and in consideration of the enormous frequency of the disease, goes without saying. But the nearer we approach the ideal



Irrigation of Naso-pharynx.

isolation, even with regard to mild cases of diphtheria, the less frequent will be the disease. It is not at all rare to find children suffering from true diphtheria, without constitutional symptoms and but little angina, sent to school, where they infect healthy children. To guard against this, children and adults complaining of the slightest throat-lesions should be isolated.

The room in which the patient lies should be isolated not only from the rest of the household, but measures should be taken to keep strangers from coming in contact with the apartment in which the patient is, and also with those engaged in waiting upon him. Above all things should cases of diphtheria be carefully isolated when they occur in the tenement districts, although perfect isolation is here practically impossible. It is needless to say that diphtheria occurring in living apartments, in connection with tenement-factories, candy-stores, butcher-shops, milk-shops, and bakeries is especially dangerous, owing to the broad channels of infection of the community which these occupations open.

A third source of infection is the fact that the furniture, utensils, clothes, and even the walls of the rooms, in fact all the surroundings of the patient, become contaminated with discharges and sputa containing Loeffler bacilli. Here the question arises how shall all these various objects be made free from the bacteria of diphtheria. Some articles cannot be so disinfected, and such should, if possible, be destroyed. The walls should be painted, old wall-paper should be removed and replaced by new; floors scrubbed with carbolized water in a one per cent. solution, or mercuric chloride solution of 1 to 4,000. All articles, such as bedding, blankets, mattresses, etc., should be subjected to dry heat at 100° C., in other words, baked. Steam at 100° C. will, of course, destroy all bacilli, but probably also the furniture. We are forced therefore to rely upon chemical bactericides, such as vapor of burning sulphur and chlorine gas.

As to the further question, now attracting so much attention, as to whether it is possible to render animals immune to the toxic products of the bacillus of true diphtheria, although properly belonging to the prophylactic treatment of diphtheria, it will be best to discuss this under the head of the antitoxin treatment, and thus avoid repetition of the same facts.

Treatment of the Local Manifestations of True Diphtheria.—The relative importance of the local as compared with the constitutional treatment of true diphtheria depends upon the site of the local manifestation, and to a certain extent the stage in which the case comes under treatment. It is evident, for instance, that in a case of diphtheritic croup, with threatening death from dyspnœa, due to occlusion of the larynx, the importance of relieving the stricture by intubation or tracheotomy for the time, overshadows the necessity of proper constitutional remedies to counteract the poison of the disease. Again, many observers believe, among them Loeffler himself, that if the site of the primary lodgement of the Loeffler bacilli is locally treated sufficiently early to destroy these before the toxic elements which they produce have affected the system, that systemic remedies become superfluous, so that under any circumstances the treatment of the primary local lesion of diphtheria is an extremely important one. A consideration of cases of diphtheria as they occur clinically will teach us that the local treatment has for its object: 1st, The removal of the toxalbumins which are the result of the activity of the Loeffler bacilli; 2d, the destruction of these bacilli; 3d, the hastening of the separation and expulsion of the false membrane, and 4th, the relief of fatal dyspnœa resulting from obstruction of the larynx and trachea by false membrane and other diphtheritic products.

Fortunately the usual location of the primary lesion of diphtheria, the throat and nose, is so easily inspected that a diagnosis of a commencing diphtheria can often be made early enough to render the local treatment an important factor in the cure of the disease. The remedies and their mode of application will depend to a certain extent upon the situation of the pseudo-membrane; thus toxic products, bacilli, and false membrane situated in the larynx cannot be attacked by fluid solutions, but rather, if at all, by vaporized remedial agents, such as calomel fumigation or turpentine inhalation, for instance, while the pharynx, tonsils, buccal and nasal cavities are open to treatment with solid or fluid agents. It would be futile to discuss all the methods and agents used in the local treatment of pharyngeal and nasal diphtheria, and I shall mention only those procedures which I have found effective both in private and hospital practice. In the first place the washing away of the toxic agents, the false membrane, and other diphtheritic products can be best accomplished by the mechanical action of fluid solutions. In these solutions we may dissolve agents that are more or less germicidal, such as the bichloride of mercury, boracic acid, carbolic acid, peroxide of hydrogen, salt, etc. The ideal solution will be that one which can be used in quantities sufficiently large to clean and wash off all of the deposits that cover the mucous membrane without being too adherent to it, and without injury to the mucous membrane or to the system if swallowed; such an ideal solution should, furthermore, if possible, have the power of destroying the Loeffler bacilli and its toxic products. It is evident that an ordinary bland, neutral salt solution, at a temperature of 85° F. can be used in unlimited quantities until all the loose diphtheritic products have been washed away; such a solution, however, has no germicidal properties. There are those who do not believe that anything is gained by the germicidal action of the solution used for douching the throat and nose of these patients. Thus a great many cases are treated in the Willard Parker Hospital locally by irrigation of neutral salt solutions with very good results. To test the question of the advisability of using antiseptic and germicidal agents in the irrigating solutions for the throat and nose, at the Willard Parker Hospital, a series of cases were subjected to local irrigation with warm salt solutions every one to three hours; a second series were subjected to this treatment, and, in addition, were sprayed every three hours with peroxide of hydrogen, in the shape of pyrozone, recommended by Dr. Northrup, varying in strength from five to twenty-five per cent., according to the severity of the case, and a third series of cases were subjected to irrigation by a 1 to 3,000 or 4,000 solution of the bichloride of mercury.

It was found that while the average number of days in which membrane persisted in the throats of those treated by salt-water irrigation was only six to nine days, that under bichloride irrigation the average duration was seven to nine days, while with salt water and pyrozone it was nine to sixteen days. The bacilli, however, persisted in the salt-water cases for 10.2 days, while in the bichloride cases they disappeared 7.4 days after the disappearance of the membrane, and in the pyrozone and salt-water cases 9.6 days. It would appear, therefore, that a mechanical washing away of the diphtheritic products is best accomplished by the warm salt-water irrigation, probably because being harmless it can be used in much larger quantities than a germicidal solution such as the mercurial sublimate; but the bacilli, and probably what is more important, the toxic products, disappear most rapidly under a bland germicide like corrosive sublimate, or in my experience what is equally good, a solution of boracic acid, 1 to 30, or a tablespoonful to a pint of water. The latter solution I use without salt water, it being sufficiently mild to use in large quantities. If the mercuric bichloride is preferred on account of its stronger germicidal action the salt solution should be used for the mechanical work of thoroughly irrigating the throat and nose, and

this should be followed by the solution of mercuric bichloride. Of course when the latter is used, should symptoms of mercurial poisoning occur, which I saw once at the Willard Parker Hospital during the summer, then the bichloride should be stopped and the boracic acid substituted.

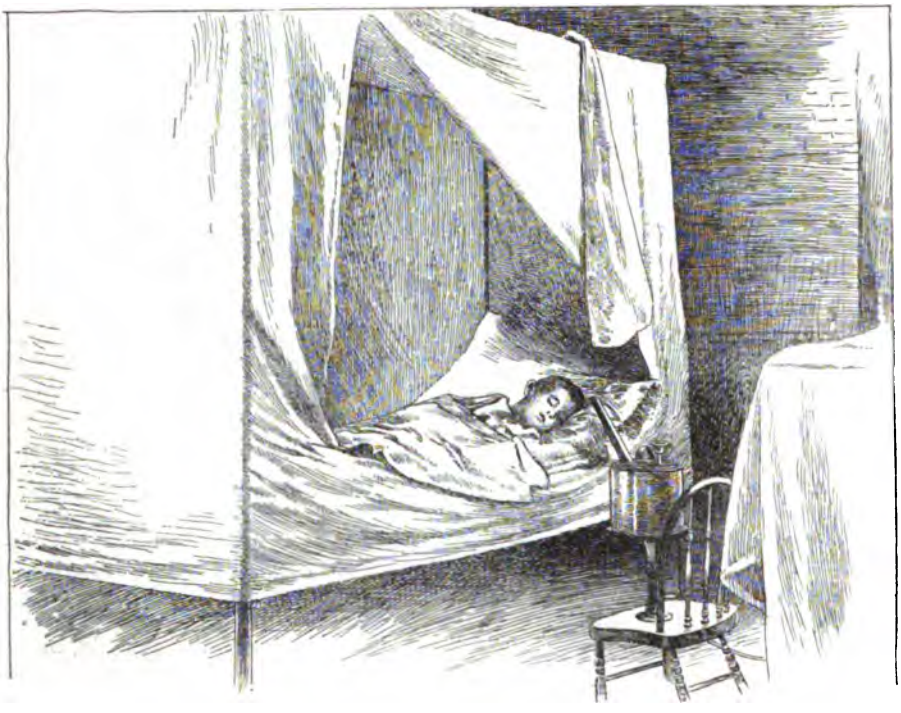
Now as to the frequency with which irrigation should be done. This varies with the severity of the case. When the nose and throat fill up rapidly with the secretions the irrigation should be at shorter intervals until the improvement in the amount of discharges renders less frequent irrigation equally effective. We must not forget, however, that irrigations, even if properly performed, are accompanied by more or less disturbance, and sometimes even violent resistance on the part of the patient, and that the strength of the patient is thus apt to become exhausted. It is of the utmost importance, therefore, if we would husband the vital energies of the patient and avoid heart failure, which is one of the chief dangers of diphtheria, that these irrigations be performed at intervals sufficiently far apart not to weaken the patient and yet sufficiently often to keep the nose and pharynx properly cleaned. Rarely do I think it necessary to subject the patients to irrigation more frequently than once in two hours, generally only once in three hours; both nose and throat being irrigated. As to how these irrigations should be done. The method that disturbs the patient the least should be the one selected; that I believe consists in the use of the fountain syringe. The patient, if a child, should be wrapped in a sheet, so as to pinion the arms, and then placed recumbent on the side upon a table or bed, a rubber sheet passing from the patient to a receptacle on the floor; the syringe is hung several feet above the level of the patient, and the nozzle, with a single opening, passed gently into the upper nostril as the patient lies on the side, parallel to the floor of the nasal cavity. The solution will wash out the nasal cavity and naso-pharynx, pass out through the lower nostril and through the mouth; the stream should be controlled so as to irritate the patient as little as possible. The lower nostril is then irrigated; then the patient remaining in the same position, and a large nozzle having been substituted, generally the larger rectal tube that goes with the syringe, the throat and mouth are irrigated, care being taken that the nozzle of the syringe is inserted well over the dorsum of the tongue, so that the solution may reach the pharynx.

The advantages of this form of douching are, 1st, the patient is recumbent, and thus the strength is not wasted; 2d, sufficiently large quantities of solution can be used without such interruption as it necessitated by the piston syringe; 3d, far less violence is necessary than in the use of the piston syringe; 4th, this irrigation can be accomplished with the least assistance, one nurse being generally sufficient to manage the tube and patient; 5th, there is the minimum of chance of washing bacilli into the larynx in cases in which the larynx is not previously affected. Occasionally where the plugs in the nose and posterior nares are so thick and firmly adherent that this douching does not dislodge them, the force of a piston syringe, with a soft rubber tip, so as not to injure the mucous membrane of the nose, may be employed; finally, and this is rarely necessary, a long probe, carefully guarded with cotton, may be passed through the nostrils, to be immediately followed by irrigation, which generally clears out the nostrils and keeps them open for the future. Swabbing, pencilling, and scraping the throat and nose are not useless, but are actually excessively injurious, owing to the abrasions which result upon the mucous membranes, each of these abrasions becoming immediately infected and diphtheritic.

I have occasionally blown small quantities of iodoform into the pharynx in cases where the appearance of the throat was extremely septic in character. I have never observed in such cases any symptom of iodoform-poisoning. Peroxide of hydrogen I have used in weak and strong solution, often the commercial solution of sixteen to seventeen per cent. by volume, pure; I have employed it as a spray and injected it with a glass syringe both in the throat and nose, and while theoretically the germicidal action of the peroxide of hydrogen should render it extremely useful in this disease, I have not found that the cases in which I have used it have done satisfactorily; the reason is that the preparation is extremely irritant, causing inflammation in the mucous membrane, with which it comes in contact when in strong solution, and this inflamed mucous membrane is apt to become diphtheritic. The weaker solutions, although non-irritant, are not strong enough to be germicidal nor bland enough for the mechanical washing effect. I must not neglect here to mention a local treatment for diphtheria recently proposed by Loeffler, and for which he makes enthusiastic claims. In the *Deutsche Medicinische Wochenschrift*, of October 18, 1894, Loeffler reports 71 patients treated in private practice by this new method, with 71 recoveries, all these cases having begun treatment early in the disease. Of 30 patients seen in hospital practice 5 died. All of these were seen in the second stage of the disease. The treatment is entirely local, and has for its object the destruction of the bacilli before their toxic products have been absorbed into the circulation. He applies to the diphtheritic mucous membrane of the pharynx or nose, as the case may be, the following solution: Alcohol, 60 volumes; toluol, 36 volumes; liq. ferri sesquichlorati, 4 volumes.

To alleviate the pain which the application of such a solution to the throat entails he adds 20 volumes of menthol. He finds that this solution, when brought in contact with thick culture layers of bacilli, in the laboratory, kills them in five seconds. The method of application consists in cleaning the affected mucous membrane with pledgets of cotton, then applying similar pledgets, thoroughly saturated with the solution, against the affected areas for the space of ten seconds. This should be repeated about every three hours at first, until the pulse becomes slower and the temperature falls; then only three times daily until membrane and bacilli disappear. The high authority of Loeffler's name would sanction the faithful trial of this remedy, but it is evidently open to the objection that it is scarcely applicable to cases of true diphtheritic croup, since here we cannot make these applications with any degree of completeness, especially where the process extends into the trachea. We come next to consider the local treatment of laryngeal true diphtheria, or membranous croup; here, as already hinted, the conditions are such as almost to preclude the use of fluid local remedies, for the reason that the mucous membrane of the larynx is not readily approachable; 2d, because fluid applications are apt to pass down through the trachea into the bronchi, and thus give rise to a pneumonia. Again, we have other conditions to treat in laryngeal diphtheria than in diphtheria of the pharynx and nose. For here the most prominent and disastrous effect of the disease is the dyspnœa resulting from, and varying with, the more or less perfect occlusion of the glottis and the lumen of the larynx and trachea; furthermore, the inhalation of the septic diphtheritic products located in the respiratory tract is apt to give rise to diphtheritic or septic bronchitis and pneumonia. The local treatment then, here has for its object, 1st, the prevention and removal of the swelling and false membrane affecting the mucous lining of the glottis, larynx, and trachea, and narrowing and occluding the calibre of the respiratory tract; 2d, the destruction of the bacilli and their toxic products in order to prevent the extension of the diphtheritic process into the bronchi and air-cells. It is evident that the form in which remedial applications can be best applied to this region is in the form of vapor or gas. Every inspiratory effort should,

if possible, result in the inhalation over the diseased mucous membrane of a curative vapor. There are many of these designed to produce various effects. Thus it has been thought that inhalation of steam reduces the swelling of the mucous membrane of the respiratory tract, to which much of the narrowing and mechanical occlusion of the tract is due; furthermore, these inhalations are supposed to hasten the separation and expulsion of the false membrane located in the larynx and trachea. It has always been a question in my mind whether the inhalation of the vapor of water has any such effect, for in cases in which there is false membrane and swelling in the pharynx, which we can observe, I have not noted any such effect from the inhalation of steam alone; but there is no doubt that such steam inhalations are extremely agreeable to the little sufferer, especially if they are warm and long continued. Steam inhalations in the treatment of croup was first recommended by Dr. L. H. Sayre, of this city, about thirty years ago. I must lay some stress upon the importance of having the steam warm; which is never the case in the ordinary steam spray apparatus known as the steam atomizer. In the Willard Parker Hospital there is in use an ordinary kettle, made of tin, with copper bottom, placed upon a tripod, with a Bunsen burner under it; this kettle has a long nozzle which delivers the steam about on a level with the child lying in a cot. A similar kettle, though not quite so large, can be bought at the stores and used in private practice. While ordinary steam gives the emollient effect of a poultice to the inflamed mucous membrane, it has been sought to use the steam as a vehicle for the application of germicidal agents to the bacteria located at the site of the disease in the larynx. I have thus used the oil of turpentine, creosote, and carbolic acid. With all of these agents I think some effect upon the dyspnœa is obtained. I have been led to believe that the effect of vapor of water thus medicated is better than that of vapor of water alone. The same apparatus is used as for ordinary steam, a small quantity of the turpentine or creosote or carbolic acid being poured upon the surface of the boiling water. These agents stimulate the patient to cough, and much of their beneficial effect should be ascribed to this circumstance; as to any germicidal action, the use of vapor of water, to which carbolic acid or creosote has been added in sufficient strength to produce such an effect, is irritating to the lungs and apt to give rise to pneumonia and bronchitis. I have yet to mention, however, one of the most important local applications of a vaporized remedy in croup, and that is the inhalation of the fumes of burning calomel. That mercury, when given internally in diphtheria, and particularly diphtheritic croup, is of the greatest value, an experience extending over seven or eight years has convinced me; and it appears to me that the beneficial effects of the inhalation of calomel fumes in cases of diphtheritic croup depends to a great extent upon the constitutional action of the mercurial vapor absorbed by the mouth, throat, and lungs. Nothnagel in his work on therapeutics shows that the action of inunctions of mercury cannot depend upon absorption through the skin; it depends upon the fact that such inunction, owing to the heat of the body, vaporizes the mercury; this mercurial vapor is directed by the clothing to the mouth, and thus inhaled and absorbed; how much more likely is it that sublimed calomel is absorbed by the vast absorbing surface represented by the air-cells and mucous membrane of the bronchi and trachea. I believe, then, that the only way in which calomel causes a diminution in the swelling of the affected portions of the respiratory tract, and hastens the loosening and liquefaction of the false membrane, is by being absorbed when thus locally applied, and producing the constitutional effects of the mercury. It is possible that it has some effect as a germicide locally, and the strongly irritant quality of the vapor certainly causes cough; but these results are only secondary, and certainly are inadequate to explain the excellent effect of the calomel fumigation in diminishing dyspnœa and softening the cough of cases of membranous croup. The calomel should be burned under a tent formed over the bed of the patient. The tent should be as complete as possible, and not too large, so as not to require too much calomel for fumigation. The calomel should be sublimed upon a tin plate over an alcohol lamp. I present herewith a calomel sublimer, which I consider excellent, used at the Willard Parker Hospital. The quantity that should be burned is about ten grains every two or three hours, depending upon the severity of the dyspnœa, until the patient is relieved; here, as from the internal administration of mercury, constitutional effects, such as diarrhœa, salivation, etc., should be looked out for, and the procedure guided accordingly. Salivation, however, is very rare in young children. I have neglected to state that the tent over the cot of these little croup patients is an important factor in the local treatment of croup, for even steam inhalations can only be done effectively if the patient is made to breathe the air of a confined space filled with steam. There are, of course, a vast number of other local remedial medicinal agents for diphtheritic laryngitis, but those I have mentioned are the ones with which I have had the most experience.



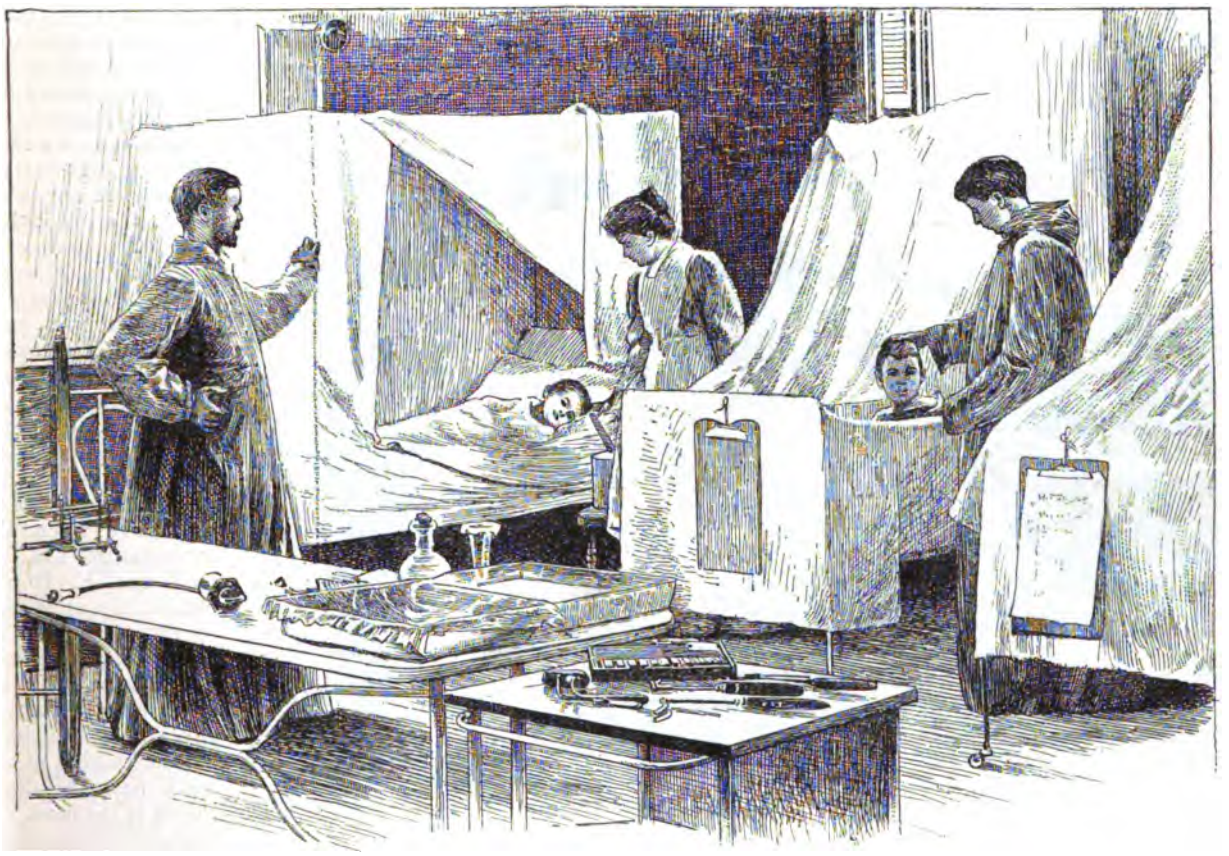
Showing Position of Calomel Fumigation.

Finally, we have for the relief of the dyspnœa in diphtheritic laryngitis which threatens to become fatal two surgical procedures, the one ancient—tracheotomy; the second recent, modern, and American—the method that the world owes to the genius of O'Dwyer, intubation. It is customary in these days to contrast these two methods of operating, with the view of finding

which should be preferred. A comparison of the two procedures is as preposterous as it would be to discuss whether it is better to extract a foreign body from the œsophagus, or perform œsophagotomy or gastrotomy. In cases in which the milder operation is sufficient, certainly the severer and more fatal operation should never be performed. The object of the operative procedure being to relieve dyspnœa, that operation should be selected which can do it most effectively and most safely—by safely we mean ultimate as well as immediate safety. It will be conceded without argument that even in the hands of the most skilful surgeon tracheotomy is by far a more serious operation than intubation; but to enumerate all of the advantages of the latter operation is hardly necessary when it is remembered that the percentages of recovery from intubation, taking all the cases, are vastly better than those from tracheotomy. Many parents who will subject their child suffering from croup to intubation would refuse tracheotomy; superior surgical skill is not requisite to its performance. There is little or no danger from the operation, if we exclude the possibility of pushing down false membrane in front of the tube, which occurs rather rarely. The after-treatment is simple, and does not absolutely require trained nurses for its proper fulfilment. There is no wound to heal after the tube is removed. The objection to intubation is the difficulty in feeding patients with a tube in the larynx; even small quantities of liquids when swallowed pass into the trachea instead of the œsophagus, and gives rise to a pneumonia, due to the lodgement of liquids in the smaller bronchi and air-vesicles. And yet taking all the advantages and disadvantages into consideration, I think we may formulate the rule that in cases in which the dyspnœa can be relieved by intubation, this operation should be performed. If subsequently the tube no longer relieves the dyspnœa, then a larger tube may be tried, or tracheotomy may be performed. I should then limit the performance of tracheotomy to those cases of membranous croup in which the tube does not relieve the dyspnœa primarily, or secondarily, when the disease having extended below the level of the tube, the latter no longer is effective.

It is hardly within the province of this paper to discuss the method of the performance of these two operations. A few important points in management of intubation cases cannot be too often repeated. 1. I have found the best tubes those most recently manufactured, with the bulbous ends. 2. In inserting the tube the gag should be placed well back between the last molar teeth. 3. The tube should be thoroughly sterilized before being inserted by dipping in boiling water. I think that frequently the extension of the disease below the level of the tube is due to the use of a dirty tube. 4. Liquids should be fed the patients in small quantities, the patient lying on the back, on the lap of the nurse, with the head thrown back, thus bringing the back of the pharynx on a lower level than the larynx. 5. If the baby be a nursing baby it should be fed in that way even when intubated. I have been accustomed, in older children, where in spite of all efforts neither food nor drink can be swallowed, to remove the tube every second day, sometimes even every day after the second day, feed the patient, and then replace the tube; this, however, is very rarely necessary. I generally order ice for the thirst instead of water; ice-cream, condensed milk mixed with ordinary milk in equal parts, thick broth, the yolk of eggs, these are the chief articles of diet while the tube is *in situ*. Before extracting the tube the blades of the extractor should be examined to see that they are firm. I have seen one of them break off just as the extractor had been placed in the mouth. The patient should be kept under a tent filled with warm steam while the tube is in the larynx.

A word as to emetics. I do not ever think it necessary to administer emetics, except at the beginning of the disease, and then chiefly as a means of differential diagnosis between true and false croup. The latter cases are cured by a sharp emetic, and little other treatment, while true croup is temporarily relieved, but soon the membrane reforms, the swelling returns, and



View of Croup Tents.

the patient is as bad as ever. To relieve dyspnœa in true diphtheritic laryngitis, emesis can be but a temporary expedient. The emetic I prefer in all of these cases is the yellow subsulphate of mercury.

Constitutional Treatment.—I do not think that anyone will question that by far the most frequent cause of death from diphtheria, except when it is located in the larynx, is the pathogenic action of the toxin formed under the influence of the Loeffler bacillus. This toxin is absorbed into the general circulation, and gives rise to the familiar manifestations of toxic diphtheria, such as fever, swelling of the lymphatics, disturbance of the heart's action, manifested by rapid and feeble pulse, and sometimes heart failure, inflammation of the kidneys, lungs, brain and its meninges, the formation of abscesses in different portions of the body, and in the later stages of the disease, paralysis due to toxæmia and inflammations of the peripheral and central nervous system. All of these are chiefly the result, in a general way, of the absorption of the toxic material into the blood. Even

The Method of Intubating.

where the inflammatory lesions are due to the direct extension of the diphtheritic process, as in diphtheritic bronchitis, and pneumonia, inflammation of the middle ear and mastoid sinus, the absorption of toxins into the blood adds greatly to the danger. The constitutional treatment of diphtheria, then, is by far the most important of any that we have considered. Such constitutional remedies at present in use in this disease are either symptomatic, empirical, or rational. The symptomatic remedies are those whose use is intended to counteract the evil symptoms of the action of the toxin. Thus digitalis, strychnine, caffeine, etc., are intended to obviate and remove the signs of weak heart's action; empirical remedies are such as have been found to exert a favorable influence upon the constitutional manifestations of diphtheria, by experience, without a really adequate explanation of their action being known. In this group I would class the most important remedies that we have against the action of the diphtheritic toxin, bichloride of mercury and tincture of the chloride of iron, although some might class both of these among the so-called rational remedies for diphtheria. Finally, we have the most recent remedy for diphtheria toxin, the so-called antitoxin treatment, which, if all that has been claimed for it turns out to be true, will, as is always the case with rational remedies, replace the empirical absolutely.

In considering the symptomatic remedies for the constitutional symptoms produced by diphtheria toxin, one of the most important symptoms which comes up for treatment is the fever. This varies in amount, but not in proportion to the gravity of the disease. Very septic cases of diphtheria may have little or no fever, while mild cases sometimes "run" high temperatures. At the beginning of the disease the fever is probably due to the local inflammation of the tonsils and not to the absorption of toxins. This fever will subside within the first twenty-four hours, so that a patient with a high temperature at the outset may be bright and smiling on the following morning, while the throat is found to be full of membrane. The treatment of the fever of diphtheria should never be by antipyretics. These drugs weaken the activity of the heart. Hydrotherapy only should be used. This includes cold compresses about the neck for their local action, sponging with a mixture of five parts cold water and one part alcohol, and Ziemssen's baths. The temperature does not require any treatment if it be below 102° F., and cold sponging in a warm room, followed by gentle rubbing with a dry towel is to be preferred to baths. The frequency of the sponging or baths will depend upon the temperature, and should be suspended entirely when the temperature has fallen to 101° F. In this connection it is well to remember that a small amount of fever has a sustaining rather than a weakening effect upon the pulse. The sustaining of the weak heart of diphtheria is the most important symptomatic indication in the treatment of this disease. It should be enforced in every case before the appearance of the signs of a failing heart. In diphtheria as little work should be placed upon the heart as possible. Such patients should not sit up, but maintain a recumbent position. The patient should be kept lying in bed, as long as membrane is present, however slight the symptoms may be. Severe cases should be kept in bed for weeks after the membrane has disappeared. All local applications made to the throat should be so made with the least possible physical disturbances, and, when possible, with the patient in the recumbent position. In an excessively excitable patient I frequently prefer to suspend for a time the local treatment of the disease rather than exhaust the patient. Indeed, the frequency of local applications, such as irrigation, should depend partly upon the severity of the local disease, and partly upon the strength and resistance of the patient to the local treatment. Stimulants and diet should be such as will best maintain the strength of the heart. Thus I give whiskey, brandy, and other alcoholics, together with a fluid diet, milk, beef-broth and beef-juice, eggs, etc., avoiding all forms of diet and stimulation which cause vomiting. In severely sick children, where the

patient refuses food and stimulants, rectal feeding must be employed; I have no experience in feeding such patients with the stomach-tube; the objection to this is the struggling of the patient when the tube is passed, although some cases, I have no doubt, will do better fed in this way than by the rectum. As much of the alcoholic and fluid diet as possible should be given at frequent intervals and in small quantities at a time. Of the alcoholic stimulants, whiskey is to be preferred, diluted with milk or water.

Of stimulant drugs strychnine should be given at the very beginning, in order that its maximum physiological effect may be attained about the time when the heart begins to flag. It is best to give considerable doses, frequently repeated; to a child two years of age $\frac{1}{120}$ of a grain every two or three hours if necessary. Should symptoms of heart-failure occur, hypodermatic injections of strychnine, nitro-glycerine, and caffeine, in the shape of the double salicylate of soda and caffeine, are indicated. Counter-irritation to the heart is also indicated. Digitalis does not act well, in my experience, in the heart-failure of diphtheria.

There has always been in this disease the desire, on the part of our profession, to discover a specific remedy that is common to all frequently fatal diseases; such specific remedies have generally been advocated upon an empirical basis. The empirical drugs in treating diphtheria, with which I have had experience, are the tincture of the chloride of iron, and the bichloride of mercury. I do not think that the use of either of these is really empirical in the treatment of diphtheria. The tincture of the chloride of iron in large doses, fifteen to sixty drops every hour or two, undiluted and only mixed with a little glycerine, certainly has some local effect upon the throat as it is swallowed. The recommendation by Loeffler of the perchloride of iron solution as a local specific against diphtheria, of which I have already spoken, would indicate its local value; when swallowed, if absorbed by the stomach, it would appear to act as a blood stimulant, supporting the heart through a wasting disease. This remedy in large doses, and only in such doses has it any possible effect, is very popular, having the sanction of the highest authority. I must protest against the administration of this drug in small doses, at long intervals, unless the physician intends it to act simply as a placebo.

While I consider the iron treatment as given above adequate in milder cases of diphtheria, I do not rely upon it exclusively in severer cases, but have much more confidence in the use of large and frequently repeated doses of corrosive sublimate. This treatment of diphtheria and diphtheritic croup was first introduced into this city by Dr. A. Jacobi, and unless the antitoxin treatment should prove all that is claimed for it abroad, I have considered it by far the most valuable remedial agent given to us in diphtheria. Its good effects are as remarkable in the treatment of diphtheritic croup as in the treatment of general diphtheria. In this respect it differs widely from the iron treatment; I consider the latter absolutely valueless in cases of uncomplicated membranous croup, with no septic manifestations, while the mercurial treatment is to the medical treatment of true croup what intubation is to the operative treatment of the same disease. Fully half the cases of membranous croup, if properly treated sufficiently early by corrosive sublimate, will not require intubation of the larynx, and those that have been intubated do far better if they have been under the influence of the mercurial sublimate solution before the intubation, even if this has not succeeded in relieving them without the operation. I have already stated that the most valuable local remedial agent in croup is calomel fumigation, and I am convinced that this is of value only through the absorption of the mercury by the mucous membrane of the bronchi and through the air-vesicles. In other words, calomel fumigation only hastens the saturation of the blood with mercury. As to why the internal administration of the bichloride of mercury is of such value in diphtheria I cannot say. Mercury certainly is excreted by the mucous membrane of the respiratory tract. It increases the secretion of the mucous follicles as it does that of saliva, and probably in this way accelerates the loosening and separation of the false membrane. Upon pharyngeal diphtheria it can possibly exert a slight local effect, of an antiseptic character, as the hourly or half-hourly dose is swallowed. As to whether it exerts a destructive action upon the diphtheria toxins in the blood is very doubtful. Nevertheless clinically this is by far the most powerful curative medicinal agent in the treatment of diphtheria. It should be given in comparatively large doses frequently repeated. I give to a baby a year old $\frac{1}{60}$ grain every half-hour or hour, and this can be continued for several days if necessary. Salivation in these little patients is very rare. The occurrence of mercurial diarrhœa is the chief indication for the suspension of the remedy. It is rarely or never vomited. It should be given alone, dissolved in distilled water; never given in a mixture with iron, never mixed with an organic drug or sirup. If albumin be present in the urine when the treatment is begun, its increase should signify a diminution of the drug; if no albumin is present in the urine, its appearance means a suspension or diminution of the remedy. The iron treatment is also contra-indicated if the albumin in the urine of the patient is increasing.

We now come to the consideration of the most remarkable method of treatment that has ever been proposed for true diphtheria, and the only one to which the term rational can be applied, namely, the *serum therapy* as applied to this disease, that is to say, the antitoxin treatment of diphtheria.

By the methods hitherto advocated, diphtheria has been treated with considerable success; indeed, with rather more success than they have had in Germany or France, judging from statistics recently published. And yet diphtheria has been a frightful scourge to very young children, killing larger numbers of them than perhaps any other acute infectious disease. With the view of eradicating this scourge bacteriologists and clinicians turned their attention to discovering some method by which human beings could be rendered immune to attacks of true diphtheria, and in a general way to attacks of other acute infectious diseases. While methods were discovered by which animals, sensitive to diphtheria, could be rendered immune to the action of the Loeffler bacillus and its toxin, it was found that similar principles could be applied, in the treatment of diphtheria which had already developed in animals, with success. As early as 1868 an Italian had vaccinated patients suffering from diphtheria with diphtheritic virus, and under this method of treatment lost but one case out of fifteen treated. Bagola, of Sienna, using a like method of treatment, had similar results in twenty-nine cases. One can readily see the objections, however, to a method of treatment, or of procuring immunity which would necessitate the inoculation of human beings with active poison like diphtheria virus, or the injection of cultures of diphtheria bacilli into the blood of human beings with the object of rendering such persons immune; the reaction to the poison might be sufficiently great to cause a fatal diphtheria. Brieger and Fraenkel succeeded in rendering guinea-pigs immune against virulent cultures of the diphtheria bacillus by injecting bouillon cultures, three weeks old, of Loeffler bacilli; they sterilized these cultures by exposure for an hour to a temperature of 60° to 70° C. They injected from 10 to 20 c.c. subcutaneously. At the end of two weeks immunity was complete. It was found that all animals that are susceptible to diphtheria can be rendered immune to the disease by injecting into their bodies pure cultures of Loeffler in bouillon

of gradually increasing virulence, beginning with the weakest cultures, such as will produce only the slightest reaction, and terminating when the most virulent cultures can be injected without producing any reaction either locally or generally. Such animals retain their immunity against diphtheria for a considerable period of time, varying in different animals, but not in any case permanently.

Behring should have the credit of first having discovered the fact that the blood-serum of animals that have been thus rendered immune to diphtheria contains some substance which neutralizes the toxic agent contained in virulent cultures of Loeffler bacilli; the blood-

Proper Method of Feeding Intubated Patient.

serum of such animals produced this wonderful effect when it was added to the filtered virulent cultures outside of the body, as well as when the cultures were injected into the living animal together with, immediately preceded or followed by, an injection of the blood-serum of the immune animal. Indeed he found that when the toxin is injected into a susceptible animal several hours before the injection of the blood-serum of an immunized animal, the diphtheria toxin is still neutralized and the animal recovers. This protection and curative influence of the serum of animals rendered immune to diphtheria was observed not only against the toxin but against injections of the pure cultures of the bacillus. Upon the application of these discoveries to the human body depends the serum therapy of diphtheria in human beings, and from what we have said it will be seen that the following points are of importance in this connection: 1. How is the toxin, which is required for rendering animals immune, made and used? 2. How are animals rendered immune? 3. How is the blood-serum of immune animals containing the antitoxin to produce its effects? 4. How is it to be applied, as to dose, frequency of application, etc., in the therapy and prevention of diphtheria? 5. What are the therapeutic benefits of the antitoxin treatment as compared with other forms of treatment of diphtheria?

1. The toxin for immunizing animals to diphtheria poison, that is, inducing in them, as it were, the diphtheria habit, is best made by cultivating extemely virulent bacilli in a current of moist air.[1] Alkaline bouillor containing two per cent. of peptone is placed in flat-bottomed vessels, supplied with a lateral tube for the admission of air above the level of the fluid. These solutions are sterilized and inoculated with very poisonous Loeffler bacilli, and heated in an oven to 37° C. When the culture has begun, a stream of air is admitted. After three or four weeks the culture is rich in toxins, and can be used for purposes of immunization of animals. These cultures are filtered through a porcelain filter. The clear fluid remaining is kept in the dark, in bottles well corked, at ordinary temperatures. 0.10 c.c. of this toxin, thus kept, will kill a guinea-pig weighing 300 gm. in forty-eight to sixty hours.

2. How are animals rendered immune? The toxin above described is too strong for a first injection; it produces a fatal diphtheria. It must therefore be diluted. Roux and Vaillard have used for this purpose iodine. Before injecting they dilute the toxin with one-quarter of its volume of Gram's solution, and after a few seconds inject it under the skin. The amount injected depends upon the size of the animal. An ordinary rabbit will stand a first injection of 0.5 c.c. of this solution of toxin and iodine. After a few days, the slight reaction having subsided, another injection is given in larger doses, and thus for a few weeks, the dose being gradually increased and the dilution with iodine diminished until the pure toxine is employed. The injection should be suspended whenever the animal shows a diminution in weight, for otherwise it may die. Some animals are more susceptible than others. Dogs thus immunized give a good serum. Sheep, goats, and cows are very apt to die during the process, and great care is required in these animals to succeed in reaching the stage of immunity. For many reasons the horse has proved to be the best animal for the purpose. The horse has the advantage of not being very susceptible to the poison; 2.5 c.c. of the strong toxin often causing very little fever and very slight local œdema. When immunized the horse furnishes a large amount of serum containing antitoxin, and the serum when injected under the human skin gives rise to no irritation and is entirely harmless. This animal is accordingly preferred by German and French experimenters for making antitoxin for therapeutic and prophylactic purposes. Vaillard reports as to the length of time necessary to immunize a horse to diphtheria. Beginning with an injection of $\frac{1}{4}$ c.c. of the iodine toxin mixture he was able within two months and twenty days to inject 250 c.c. of the pure toxin without producing any local reaction or increase of temperature.

3. How does the blood-serum of immune animals containing antitoxin produce its effects? Aronson[2] says that his experiments prove the antitoxin contained in the blood-serum of immune animals directly destroys the toxin of diphtheria. This action occurs in the laboratory as well as in the living organism. Buchner and others, on the other hand, believe that there is no destructive action between the poison and the antitoxin.

If an animal receives a proper dose of serum, it resists a subsequent injection of toxin which would kill a guinea-pig of like weight not previously treated with the serum. The same result will follow if the toxin and antitoxin be injected together, or if the toxin be injected first, followed by the antitoxin at an interval of a few hours. In all these the guinea-pig will remain healthy, provided the proper proportion of the toxin and antitoxin be maintained. The quantity of serum necessary for a cure varies with the weight of the animal, the amount of toxin to be neutralized, and the time elapsed between the injection of the curative serum and the toxin. We know very little of the real

[1] Roux and Martine: Annales de l'Inst. Pasteur, November, 1894.
[2] Berliner klinische Wochenschrift, 1895, No. 15, p. 356.

nature of the "antitoxin" constituent of the antidiphtheritic serum.

4. As to the dose and method of application of the serum containing the antitoxin. The dose varies with the strength of the serum. Ehrlich has proposed a method for estimating this strength for any given sample of antitoxin serum. The unit of strength is $\frac{1}{10}$ of c.c. of such a serum, which so neutralizes $\frac{9}{10}$ c.c. of normal toxin that the mixture injected under the skin of a guinea-pig produces no local manifestation. The blood-serum used for therapy in human diphtheria is obtained by drawing the blood from the jugular vein. From this a perfectly clear serum is separated. To it is added a small amount of trikresol to keep it from decomposition. The immunizing power of the serum obtained from these animals is so great as to reach 100,000; that is to say, the serum will neutralize a dose of toxin that would kill the experimental animal, when it, the serum, is administered in the weight of 1 to 100,000 of the weight of the animal.

Aronson[1] has succeeded recently in manufacturing very much more powerful antitoxin serum by using for his animals toxin obtained from very old and extraordinarily virulent diphtheria cultures. Behring's normal antitoxin, Roux normal antitoxin, and Aronson's immunization solution are about of equal strength. Aronson's stronger solution is three times stronger than the immunization solution. From experiments with the serum on animals we know that the dose of antitoxin serum for therapeutic purposes necessarily varies with the weight of the individual, the virulence of the diphtheritic manifestations, and the length of time that has elapsed since the patient has been affected with the first symptoms of the disease. Behring's, Roux's, and Aronson's immunization, or weaker solution, all have the effectiveness of 50,000 to 100,000. The dose is, for theraaeutic purposes, 20 c.c. as a first injection, under the skin between the shoulder-blades or in the flank. If a bacteriological examination shows the presence of Loeffler bacilli, Roux gives 10 c.c. more in twenty-four hours. If no Loeffler are shown the case receives no more antitoxin. These two injections, made under antiseptic precautions, generally suffice, although in some cases with high temperature and rapid and feeble pulse a third injection may be given. No evil results follow, either locally or generally, according to every observer who has reported his cases. Some observers have found a red rash following the injection of the antitoxin. In the cases treated at the Willard Parker Hospital, but two cases out of twenty showed a rash, of doubtful character, following the eruption. The antitoxin was used for purposes of rendering human subjects immune to diphtheria by Aronson, Roux, and others, but I have never seen it used for this purpose. It must not be forgotten that any immunity to diphtheria is only a temporary matter, for this is not a disease in which one, or at most two attacks, grant immunity. Some patients have true diphtheria several times a year.

At the Willard Parker Hospital twenty cases, recently reported to a section of this Academy by the resident physician, were treated during the time of my service. The preparation used was Aronson's stronger antitoxin solution. The dose varied from 5 to 12 c.c.; the total number of injections given to all the twenty patients was thirty—an average of one and a half injections per patient—much less than Roux or the German authorities give.

5. We come finally to consider what benefits have been derived from the antitoxin treatment of diphtheria, and how do they compare with results obtained by other methods of treatment. In the year 1892 there were 4,654 cases of diphtheria reported to the Bureau of Contagious Diseases in the city of New York—1,436 died. In 1891 there were 4,874 cases reported, of which 1,361 died, a death-rate for the two years of 29⅓ per cent. During 1892, at the Willard Parker Hospital, there were treated for diphtheria 255 cases; died during the year, 79; death-rate, about 25.4 per cent.; but in children under five years of age the death-rate was 44.55 per cent., and from five to sixteen years, 11.7 per cent. only. The number of cases reported by physicians to the Health Department is necessarily far less than the number really occurring, for the mild cases are frequently not reported, so that the diphtheria death-rate for the city is probably much lower than that given above. The death-rate above given was under the customary treatment of diphtheria.

Curiously enough, the death-rate from diphtheria in the cities in Europe is very much larger than in ours. Martin and Chaillon report that in the Hospital des Enfants Malades there were treated, from 1890 to 1894, 3,971 children, of which 51.71 per cent. died—more than twice the death-rate at the Willard Parker Hospital for 1892; and probably more than twice the death-rate in the city of New York at large for 1891–92.

Similar statistics are obtainable from Berlin and Vienna, hence we must conclude either that the diphtheria in these cities is far more virulent than ours, or that our present methods of treating diphtheria are twice as efficacious as those hitherto pursued on the other side of the Atlantic.

Under antitoxin injections of the cases treated at the Hospital des Enfants Malades from February 1 to July 24, 1894, of 448 children, 109 died, or 24⅜ per cent. At the same time, of 500 cases treated at the Hospital Trousseau, 316 died, or 63⅓ per cent.—a frightful death-rate for this disease. Deducting from the 448 cases 128 that were not true diphtheria, and 20 cases that were not treated, the death-rate is 78 out of 300 cases, or twenty-six per cent. The improved death-rate, then, from antitoxin treatment at Paris, is not as low as our own death-rate under old forms of treatment.

Aronson, on the other hand, reports a reduction of mortality in cases of true diphtheria treated by antitoxin to twelve to thirteen per cent., against thirty-two to thirty-seven per cent., under the old methods of treatment. Katz reports 163 cases of true diphtheria, with a death-rate of thirteen to fourteen per cent., treated by antitoxin. All observers agree that of cases coming under treatment during the first day of the disease all recover, and the further the disease has advanced before the beginning of the treatment the less hope there is from the antitoxin treatment. Of the 20 cases treated at the Willard Parker Hospital there were admitted, and treatment began

Day of the Disease	Number of Cases.		Died.	Per cent.
Third	7	of which	2	28⅝
Fourth	4	" "	0	0
Fifth	5	" "	1	20
Sixth	1	" "	0	0
Seventh	2	" "	1	50
Eighth	1	" "	1	100

In all 5 died, being twenty per cent. of the cases.

In view of the fact that the most reliable observers on the other side of the Atlantic report such a vast improvement in the death-rate from true diphtheria, it is proper for us to look to the serum therapy as applied to this disease with a great deal of hope of benefit from its use in this country, but in view of the discrepancy between the results obtained by present methods of treatment in this country, as compared with results from the same treatment abroad, we must suspend judgment as to the value of antitoxin treatment in this country until we shall have proved by the treatment of thousands of cases as great a reduction in our present death-rate, relatively, as they have succeeded in obtaining in Europe. I have purposely not mentioned the complications of diphtheria in this paper, inasmuch as the subject is obviously too vast for consideration in one paper; it has been rather the aim to give a general outline of the treatment of diphtheria as followed in hospital and private practice.

[1] Aronson: Internal Klein Rundschau, 1894.

245 Seventh Street.

MANIPULATION IN THE TREATMENT OF ASTHMA.

By ORRICK METCALFE, M.D.,

NEW YORK.

In an article published in the MEDICAL RECORD, April 7, 1894, I spoke of the treatment of cough by manipulation. I find that I did not describe the process with that clearness which is necessary to the full understanding of a new method. I use the word manipulation because it seems to me that it expresses rather better what is done than the terms rubbing and massage. There is some rubbing done, but sometimes pressure alone, for a longer or shorter time, is all that is necessary to afford relief. The rubbing is never done superficially, confining the influence of the force expended to the skin. As I practise manipulation there is pressure, combined with a very limited degree of rotary motion. The degree of pressure depends upon the sensitiveness of the part operated on and the nearness to the surface. Where the tissues involved are deep-seated the pressure is necessarily firmer. As to how manipulation brings the relief I have no theory, but when a muscle is thereby freed from pain, I think I know why it is able to perform its function better, no matter what that function is. The length of time for which the manipulation is to be kept up depends upon circumstances—upon what is attempted and how readily the trouble yields. Sometimes ten minutes will suffice, sometimes half an hour may be profitably spent. Generally speaking, after a few minutes spent in manipulation, the patient is requested to cough, and his success in expelling the mucus determines the conduct of the doctor as to the repetition of the treatment. After the first treatment there is almost invariably increased soreness of the part where the manipulation was done. After the second treatment, say at the end of twenty-four hours, the soreness gradually and steadily diminishes, till it disappears altogether. Some persons to whom I have tried to explain my method entertain the idea that I expect to force the mucus from the bronchial tubes by external pressure. I have not the remotest idea of anything of the sort. I know that would be impossible, but my experience has taught me that the muscles engaged in respiration are correlated with the mucous membrane of the bronchial tubes in such a way that the manipulation of the muscles will cause a flow of mucus, sometimes very free, from the mucous membrane of the bronchial tubes. I have demonstrated this too often to have the slightest doubt in regard to it.

Notwithstanding I knew this was the case in pneumonia and bronchitis, I never thought of applying the same principle in the treatment of asthma until I was told by an asthmatic that his severest attack was brought on by laughing. At the time he was seized he was feeling very well, and was waiting, with a tool-box on his arm, for the hour of seven to strike, when a funny story told by a fellow-carpenter started him to laughing, and the laughing brought on such a severe attack of asthma that he had to be carried to his home in a hack. It occurred to me that the convulsive action of the muscles engaged in laughing was the cause of trouble, and that possibly an examination would reveal an unhealthy condition of those muscles. Closing with this conception I determined to try, on the next opportunity, the effect of manipulation on the muscles on the sides of the chest, and not on those of the back or the abdomen. It was not long before a case presented itself. It was a well-marked case of asthma without heart complication. There was resonance over the whole chest, with very feeble and inspiratory murmur, prolonged expiration with sibilant râle. There was what asthmatics call tight-breathing and inability to expectorate. As good fortune would have it, I was right in choosing the muscles on the side of the chest as the seat of trouble; for in a few minutes after I began to manipulate she began to expectorate, and kept it up so long and so profusely that I had finally to administer a dose of morphine to arrest it. In this case the effect of the manipulation was demonstrated, so far as causing a free flow of mucus was concerned, and affording such relief as enabled her to lie down, which she could not do before. I saw her two or three times after her visit to my office, and learned that she continued to be comfortable. Remember that my object in having this patient come to my office was not to cure her, nor treat her beyond the point of testing the conception as to the relation between the outer and the inner man, and the demonstration of that relation by manipulation.

The next case was that of a man, nearly seventy years of age, who had asthma for fifteen or twenty years. He was unable to lie down, and walked across the room with difficulty. My visit was to his son, ill with typhoid fever; but seeing the old man's distress I proposed to give him some relief, expecting to find the seat of trouble on the sides of the chest; but, to my great disappointment, manipulation made no impression. Holding fast to the conception that the muscles engaged in respiration were at fault, I sought further, guided by his answer to a question, until I stumbled on the spot, about four inches long, to right of sternum and four inches below the clavicle. This spot, on pressure, was very painful, though he complained of no pain before I touched it. In a few minutes there was very free expectoration, so free as to be distressing. After the coughing was over he breathed much better, and the following night he lay down and slept comfortably. I saw this patient occasionally as a study. He was made very much more comfortable by my treatment, and was able to walk a mile and back without distress.

The third case was that of a woman, about fifty years of age, who was suffering from an acute attack of asthma, which had prevented her from lying down for three weeks. In this case there was no heart trouble, but the signs of asthma were well marked, as described in the first. The manipulation of the sides of the thorax and the sternum soon started a free flow of mucus. In fifteen minutes she could lie down comfortably. As she had been unable to lie down at night, I went at 10.30 P.M. to see if the good effects of my work done at 2 P.M. were lasting, and found her lying down, not only flat but without a pillow. I saw her twice afterward, showed her husband how to treat her, and learned that she had no further trouble.

This work having been done in Mississippi, I was desirous of seeing if similar cases would be amenable to the same treatment in New York City. The principle on which the treatment is based is as applicable here as there, whether the case be one of common asthma or of that phase of the trouble connected with hay fever. Of this disease the cases of a man, aged fifty, who had asthma, with the signs before related, and that of a woman, aged thirty-five, who, from the history she gives must have had hay fever with lung complication for nearly fifteen years, may be mentioned. The man was seen on October 2d, when I found less soreness than usual, but great distress on walking and inability to lie down at night, when he has to sleep propped up on four pillows. In his case the muscles attached to the scapula were very firmly contracted, so much so that at the first visit it was impossible to insert my fingers under the lower angle of the bone. In spite of the rigidity of these muscles the manipulation did good. He breathed better when he left than when he came to me, and slept better the following night than he had done for some time. The same treatment was pursued on three subsequent days, there being a gradual improvement from day to day. After October 5th there was an unavoidable interruption in the treatment for nearly three weeks; but during that time there was no ground lost. After the third treatment he ran up the "L" stairs, which he had not

been able to do for ten years. The treatment was resumed and the patient has been seen fourteen times since October 26th. Since he has been coming to me he has walked several times from Forty-ninth Street, near East River, to Sixth Avenue and Twenty-eighth Street. This, he says, he has been unable to do for more than ten years. He ascends the stairs of his own house more comfortably than he has done for a long time, uses only two pillows in sleeping, and when he finds himself off his pillows is not distressed by it as formerly. Where it is possible to effect a cure in such cases, it is not impossible, except by slow degrees, to restore the healthy tone to muscles that have been chronically contracted, and to others that have been atrophied by disuse. It must, even when the right thing is done, take time for the mucous membrane to be restored to a healthy condition.

In the case of the woman with hay fever and asthma there has been a steady improvement under manipulation. She illustrates one feature of lung trouble which to me was misleading when I began to study the matter. The clearing of the throat, as it is called, I used to regard as an indication of trouble in the larynx or trachea, but now I know that it may indicate irritation anywhere in the lung. It is in this way that I arrive at the following conclusion: Whenever the seat of trouble is such that the râle can be detected, manipulation will enable the patient to expel the mucus, after which the râle is no longer heard and the disposition to clear the throat ceases. I have seen this demonstrated so often that when the asthmatic complains of distress about the trachea I know the trouble may not be there in many cases, but may have a cause more deeply seated. In this case the evidence of connection between the nose, where hay fever generally starts, and the lungs, is very marked. As the asthma improves those peculiarities of the hay-fever sufferer disappear. There is less sensitiveness to currents of air, and less general irritability. Another interesting feature of this form of asthma is the effect that the manipulation of certain muscles has on the expansion of a certain portion of the lung. This point I have studied so carefully and so often that I do not think I am mistaken about it.

Does the marked and prompt relief afforded in the cases referred to, and in others that could be mentioned, justify the hope that the treatment of asthma by manipulation may be in the right direction and may eventually lead to better results than have been hitherto reached?

The Medical Profession and the Indiana Congressman.—The *Journal of the American Medical Association* has this to say about Congressman Holman: "Every physician residing in the Fourth Indiana Congressional District should remember that W. S. Holman, as chairman of the Appropriations Committee of the House of Representatives, did all he could to defeat the appropriation for the Pan-American Medical Congress, and that he persistently votes against every measure which is for the advancement of medical science. If he were governed by purely patriotic motives no one could impugn them, but when we know that a worthless member of his family was foisted on the Geological Survey and there retained for a long time on the public pay-roll, we can assume reasonably that his so-called 'watch-dog-of-the-Treasury' act is one of hypocrisy, and for demagogic purposes only. If the doctors in the Fourth Indiana District will exert themselves a little, this interesting person will be properly retired at the next election."

Dr. Just Lucas-Championnière, surgeon to the St. Louis Hôpital, has been elected a member of the Académie de Médecine. Dr. Lucas-Championnière is as expert with the bicycle as he is with the knife.

SOME METHODS OF STUDYING CASES.

By GUY C. M. GODFREY, M.D.,

FIRST LIEUTENANT IN THE MEDICAL DEPARTMENT, U. S. ARMY.

For convenience I have divided this article into three headings, Value, Human Nature, and Analysis.

I. Value.—The study of a case is of twofold value, viz.: immediate and remote value. The immediate value consists in the value to the patient and to the physician. The patient receives the value of his protector's research, and the physician gets the credit of being well-posted, thoughtful, and successful.

The remote value is that which accrues to the physician himself, because it helps him in future cases and aids in the development and training of his own mind. Remember, there is a mental as well as physical training.

Continued thought and study on each case increases the element of success in that case. Increased success means increase of practice. Hence we have what I have termed a progressive value, which makes itself apparent mentally and financially.

If, in thoughtfully considering a case, you find you are not certain about the cause, the symptoms, etc., go and look them up in a text-book, and you will increase your professional knowledge and consequently your professional value. A physician is generally called to a case on account of his value, or, in other words, his ability to treat that case. The certainty of the diagnosis of a case is to a doctor what the knowledge of the position and numbers of an enemy is to the general commanding an army. It is true he may be defeated, but still he has a greater chance of victory.

II. Human Nature.—A knowledge of human nature is a great adjunct in studying a case. Fothergill has said that the successful man is the man who knows human nature as well as his profession. This rule holds good in our profession as in others. It is sometimes amusing and always useful to know when a patient is attempting to deceive you. I once knew an army-surgeon who was approached at sick call by a soldier desiring to be placed on sick-list. Now, as it happened, the surgeon had on the previous evening seen this soldier somewhat under the influence of liquor. The man claimed, however, that his back was sprained, but after examining him the surgeon doubted the truth of this statement. He turned suddenly to the patient and asked, "How did you sprain your back?" The man stammered out something about lifting some wood, but was interrupted by the surgeon exclaiming: "You are mistaken sir. You sprained your back carrying that load you had last night." The soldier returned to duty and never tried to shirk again.

The knowledge of human nature, or the analysis of character, is often useful in ascertaining the causes of disease. Patients often keep back a venereal history which it is necessary you should know, and by carefully scrutinizing the person while you question him you can tell, usually, if he is deceiving you or not. Then again the question presents itself as to whether this man is the kind that would deceive you. After carefully watching his hands, face, movements and appearance, you can generally arrive at a correct conclusion and base your ideas accordingly. A knowledge of the different temperaments and the diseases to which they are most liable, will aid you in forming a diagnosis. During the course of the disease your study of the case will enable you to govern yourself according to the temperament of the patient, and tell you how much to show your sympathy, hopes, or earnest thoughtfulness, or all combined.

The knowledge of character is an excellent aid in giving a prognosis. It helps by giving an insight into the mental and physical energy of the patient; by telling you the amount of that patient's self-confidence, will-power, and intelligence; and by informing you of the probability of his following your directions regarding rest, diet, medicine, or habits.

III. Analysis.—The inductive system of reasoning was devised by Lord Bacon, and consists of reasoning from cause to effect. It is the system of analogists. The deductive system is that which begins at a result, and successively establishes the causes. The inductive system assumes that if the causes are found to be correct, the result must be correct. Pure logic is the process of reasoning on abstract subjects. Applied logic is logic applied to the objects about us. Some men have natural analytical minds. All minds are improved by training. The value of reasoning power in medical men is obvious.

In medicine both the inductive and deductive systems are useful in the following ways :

1. From cause to symptoms. (I have included physical signs in with symptoms.) Example : In an extensive burn there will be a large number of nerve-terminals destroyed, a large surface formed which will be allowed to rapidly conduct heat and consequently energy from the body, therefore the shock will be great.

2. From cause to treatment. Example in preventive treatment : The cause of small-pox is a germ. Vaccine destroys or weakens that germ. Therefore we vaccinate. Example in curative treatment : The heart-murmur is caused by anæmia. Anæmia is the insufficiency of hæmoglobin in the blood. Iron increases the amount of hæmoglobin. Therefore iron cures anæmia.

3. From morbid anatomy to symptoms. Example : Knowing in a case of typhoid fever that Peyer's patches are inflamed, we will comprehend that if the bowel is ulcerated through at one of these points, a certain set of symptoms will appear.

4. From morbid anatomy to treatment. Example : In the second stage of pneumonia we know that the lung is wellnigh consolidated, and reason from that, that the circulation in that part of the lung is obstructed, and that more work is thrown on the heart. Therefore we conclude that we will promote resolution in the lung by cold applications to the chest, and stimulate the heart by the use of strychnine and alcohol.

5. From cause to morbid anatomy. Example : If a gun-shot wound has been caused by a large lead bullet, we conclude that there is a great amount of coagulative necrosis around the track of that wound, and hence we reason that the wound will most likely heal by granulation.

6. From symptoms to treatment. Example : The symptoms of a case indicate the beginning of an attack of apoplexy. We enjoin rest in the recumbent posture to lessen the heart's action, and de-ligate the extremities after Dawbarn's method, to keep as much blood as possible from the brain.

7. From treatment to symptoms. Example : If in a case of urethritis, we find after a few days' vigorous treatment that the inflammation has subsided, we conclude that it is a case of simple urethritis and not gonorrhœa.

8. From symptoms to morbid anatomy. Example : If a patient presents rapid, shallow breathing, cough, pain on inspiration, fever, and flatness on percussion over the lower part of the lung, we conclude that there is an inflammation of the pleura accompanied by serous exudate.

9. From symptoms to cause. Example : A case exhibits shock, stercoraceous vomiting, pain in the groin, etc., and we find that we have to deal with a strangulated hernia and not with what the patient thought was only an abscess.

10. From treatment to cause. Example : We are in doubt as to whether a certain ulcer is an epithelioma or syphilitic sore. If the latter, it disappears under strong doses of the iodide of potassium.

11. From the history of the case we induce various important features ; and from the cause, symptoms, and results of treatment we find many things corresponding with the history, which add to the confirmation of the diagnosis. All these methods produce proofs which are not merely added proofs, but proofs increasing in regular arithmetical progression.

All these methods are not needed in every case, nor can they always be reasoned out at the bedside ; but, they may occupy the mind of the thoughtful practitioner while indulging in his after-dinner smoke, or at any other time which suits his convenience.

On the two methods of induction and deduction, is based the *rationale* of therapeutics. Therapeutics is to the physician, and antisepsis is to the surgeon, what logistics and strategy are to the leader of an armed host.

METHOD OF TESTING FOR ALBUMINURIA.

By P. J. McCOURT, M.D.,

NEW YORK.

UNDER the above caption, in the MEDICAL RECORD of September 29th last, Dr. Philip Jaisohn, of Washington, D. C., points out a few—very few—of the illusions of the so-called tests in common use for albumin. That gentleman condemns some of these time-honored standards of proof on general principles, without specifying their individual features of weakness. Another test (clearly a perversion of Spiegler's), wherein grains, grammes, and cubic centimetres are all jumbled chaotically together in the same formula, is similarly disposed of, but especially because it is too sensitive, "the most delicate test known," and because it will detect albumin in the urine "in the proportion of 1 to 50,000." This decision is unfair to the test. Had the doctor doomed it because it will, like many others I have tested, detect "albumin" where albumin does not exist, he would have done justice to the test and rendered a substantial service to his readers. Again, if it be "a well-known fact," as Dr. Jaisohn and many others declare it to be, that normal urine contains albumin either during the period of digestion or any other period, except when the albumin is derived from pus or blood, I have been unable to verify that "fact," after the diligent search of years and ample opportunities. The so-called tests which were supposed to have detected albumin in the urine during the period of digestion were merely defective, and reacted on peptones, etc.

Dr. Jaisohn next proceeds to give us his favorite test, still another modification of the heat and nitric acid series, which he had just repudiated, and which modification presents few if any advantages over, and consumes more time than any of them. Fuming nitric acid, to which he still clings, is not a mild companion in the office, the pocket, or the sick-room ; and the tale it tells is quite as treacherous as the substance. The time required for this analysis will often forbid its employment, even when a test is urgently called for. To make the urine turbid, filter it, boil the filtrate, let it stand one-half hour, boil again, and then assume the effect is a tedious, clumsy task in hurried hours of office practice or at the bedside.

During several years past I have employed, for myself and a number of my professional friends, a modification of Mehn's test, as modified by Millard, consisting of

℞. Acid. phenic. glac., ninety-five per cent..	℥	ss.
Acid. acetic. puri.....	℥	j. 3 vj.
Add liquor potassæ.....	℥	v. 3 iv.

The glacial phenic acid should be reduced to the ninety-five per cent. solution at the moment of compounding, else the resultant fluid will be turbid ; and all ingredients must be chemically pure.

To 5 c.c. of urine in a test-tube add 0.5 c.c. of the test, slowly from a pipette, to underlie the urine. In the presence of albumin a white, milky ring, of varying depth and density, to a faint milky cloud, will give the qualitative and quantitative result.

This is an ideal test for albumin, so accurate, sensitive, and convenient as to meet every requirement. By its aid we can, in five minutes, take the specific gravity, reaction, and determine the presence or absence of albumin. The test will react with 1 to 300,000 of artificial albumin and water, and is not obscured by peptones, phosphates, urates, nitrate of urea, nor even by sugar. These merits are not possessed by any other test for albumin with which I am acquainted; and I am familiar with all. The exposure from frequent use will in time change its color from clear to light brown; but this change of color does not impair its delicacy. Having traversed this entire field, and tested nearly all the tests known to us in urinalysis, I have come to rely wholly on this one for albumin.

In examining the urine of women it should not be forgotten (as it too often is) that the best test we can apply is often valueless unless the parts are thoroughly cleansed before urination.

The ideal test for sugar is yet to be formulated. Purdy's is the best, but is not perfect. Fehling's test, which has been so long relied upon, is unworthy of the name, and a reproach to our science.

233 West Twenty-third Street.

Progress of Medical Science.

Hernia of the Bladder.—Dr. Rose has reported the case of a woman, aged twenty-four, who had been the subject of a hernial tumor for three years, and had been anæmic for a number of years. The hernia was reducible, but a truss had been worn until three weeks before the woman came under observation, when the hernia became so painful that the pressure of the truss was unbearable. Nine months previously there had set in pain on micturition, and at times the woman had gone twenty-four and thirty-six hours without passing urine; she had an impression that at these times the swelling always increased in size. Micturition had become so painful at times that she had to support the rupture with the hand to secure relief. An ovoid swelling, about an inch long and half an inch wide, was present in the left inguinal region, with its long axis in the direction of the canal, and extended downward and forward toward the centre of the left labium majus; there was a distinct though slight impulse on coughing, and at times the swelling became as large as a small hen's egg. When the patient had been gotten ready for operation and was anæsthetized, and was placed in a recumbent posture on the table, all trace of the swelling disappeared. An oblique incision about three inches in length was made, with its centre over the external abdominal ring, which was clearly defined, but no protrusion was found and no laxity of the abdominal wall felt. At this moment the patient fortunately vomited, and a small protrusion occurred through the external abdominal ring. This was drawn well down, and after clearing the fascia away it was incised. The wall was much thicker than was expected, and a few drops of a straw-colored fluid escaped, which proved to be urine, indicating that the cavity of the bladder had been entered. The wound was at once douched with a 1 to 40 carbolic lotion, and the vesical incision closed by a double row of fine catgut stitches, which included everything but the mucous membrane. During the necessary manipulations a second attack of vomiting caused the protrusion of a small swelling just external to the preceding one. On laying hold of this the peritoneal membrane gave way and a fine piece of omentum protruded. As this latter was somewhat extensive, it was ligated in successive portions and removed, the stump being returned into the abdomen. The peritoneal sac was now well drawn down, transfixed with catgut, and tightly ligated and cut away, the upper part at once retracting within the abdomen. Three deep sutures were now passed through the parietal wound and the canal closed, while the external wound was sutured and dressed in the usual way, a drainage-tube being introduced. After the patient had been put to bed a rubber catheter was tied in the bladder and the urine permitted to run off. The first few ounces that passed were blood-stained, but subsequently the secretion came away quite clear, twenty-one ounces being voided in the first fifteen hours. There was no vomiting, and the case progressed to convalescence without a hitch. The patient subsequently had one or two slight attacks of retention, although there was no return of the pain or discomfort previously complained of. The cicatrix in the groin became firm, and there was no return of the hernia.—*The Lancet.*

Extra-uterine Pregnancy; Elimination of the Fœtus per Rectum.—Dr. Spannochi reports the following case of extra-uterine pregnancy, remarkable for the mode of its termination. A robust woman, without a trace of disease of any kind, four months after a perfectly healthy labor, began to complain of pains in the hypogastrium. The symptoms pointed to an extra-uterine pregnancy, probably in the left Fallopian tube. A month later the sac ruptured, and the fœtus was discharged into the abdominal cavity. Reactive peritonitis around the foreign body came on; then followed suppuration and perforation of the intestine with discharge of pus. Owing to the continuous contractions caused by the presence of the foreign body, the intestine became dilated and prolapsed; finally, after twenty-eight days, the fœtus came away through the anus. After a considerable time complete recovery took place.

Cork Splints for Deflections of the Nasal Septum.—Dr. T. Passmore Berens reports excellent results from the use of a simple device for a splint in cases of fracture or operation for deflected septum nasi. The plugs of cotton or oakum become too readily foul, while the various supports which have been used have many disadvantages, the soft-rubber tubing being too yielding, while the hard-rubber or ivory plugs cause too much pressure and pain. Dr. Berens's device to overcome these and other difficulties is as ingenious as it is simple. He makes his splints from corks in the following manner: "A selected cork (pint-bottle size), in average length one and one-fourth inch, in breadth at its broad end three-fourths of an inch, at its narrow end one-eighth to one-fourth of an inch less, in thickness from one-fourth to three-eighths of an inch, is whittled to the shape of an almond with the point cut off, and flattened on the side that is to lie against the septum; the opposite side near its lower border is slightly grooved for the reception of the inferior turbinate body. A nasal burr or trephine is now used to hollow the splint, leaving the shell one-sixteenth to one-eighth of an inch thick. A rat-tail file, small-bladed knife, or red-hot metal may also be used for this purpose. Sandpaper is used to smooth both the inner and outer surfaces, and the whole splint is then coated with flexible collodion, to which has been added iodoform in the proportion of thirty grains to the fluid ounce, allowed to dry, and it is ready for use. The making of the splints requires no especial mechanical skill, and they can be modified with ease to suit the peculiarities of each case." The special advantages of these splints, which are possessed by no other similar device, are the quickness and ease with which they can be made and shaped to fit the peculiarities of each case; their cheapness, lightness, and elasticity, combined with sufficient firmness to support the septum; their durability and non-conduction of heat and cold, and non-interference with the free circulation of the blood; the ease with which they can be cleaned *in situ* by washing out with peroxide of hydrogen and boric acid solutions, followed by an oily spray, as benzoinol; and the length of time they can be worn without pain, discomfort, or severe ulceration.—*Boston Medical and Surgical Journal.*

MEDICAL RECORD:

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REFORMS IN THE DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION.

IT is apparent that important changes are impending in the city departments. Several projects of reform legislation are designed to affect the character and composition of the several commissions, but probably that which will most certainly be realized, by legislation, will be the power of removal granted to the Mayor.

Among these departments that of Charities and Correction is so completely medical, in its character and work, that we cannot allow the occasion to pass without a word of comment on the interests involved in any changes in the *personnel* of the governing body. It is essentially the City's department of public hospitals. Of the 14,990 inmates of the institutions under the charge and control of the Commission, but 1,990 inmates are in the penitentiary and city prisons, leaving a total of 13,000 in the other, or hospital division, of the service. It is apparent, therefore, that six-sevenths of the duties devolving upon the Commission pertain to the management of hospitals.

These hospitals require for their efficient care and conduct a variety of skilled medical officials. In the several hospitals for the insane are upward of 6,000 patients, requiring a score or more of physicians qualified for the care and treatment of that special class. Hundreds of attendants, male and female, adapted to the care of the insane, must be selected. There are three large general hospitals, and four emergency hospitals, each of which must have its medical staff and corps of minor officials. There is a hospital for infants, another for epileptics, and an asylum for idiots. There are maternity hospitals, and an enormous out-door service and relief. From this imperfect statement we can estimate not only the vast amount of detail business required of the Commission, but how largely that work falls within the immediate sphere of medical duties.

It is evident that the principal business of a department thus devoted to the care and control of hospitals cannot best be administered by a body of layman. It will certainly transpire that incompetency, inefficiency, and wastefulness will characterize the management. Unable to form a correct opinion of the qualifications of the medical officers for their special duties, incompetent men will be appointed. Ignorant of the internal service of hospitals, the Commissioners have no personal judgment to guide them in estimating its defects. In the matter of supplies they must trust entirely to the honesty of others, and hence arises wastefulness. The inspection of such a body of officials has no significance whatever, and rather encourages than corrects vices in the conduct of the local officers.

The great want of the governing bodies of departments of charities is a membership of thoroughly competent physicians. The requisite qualifications of the medical members may be summarized as follows: 1. They should be of mature age and high reputation in their profession, that they may select officers judiciously and command the respect, not only of all of the medical officials, but of the profession at large. 2. They should have had large experience in all of the details of hospital management, in order that their own personal judgment may always control rightly and wisely all details. 3. They should be personally familiar with all of the institutions of the department. Physicians thus equipped for their position, should devote all of their time to these duties. They should regularly, or at short intervals, visit every hospital and personally examine the operations of every branch of the service.

Has not the tide of public opinion in favor of reforms in the management of the departments of the city government, risen sufficiently high to warrant the Mayor in giving us a model Commission of Charities and Correction? We believe it has, and that if he fails to select persons of eminent fitness for these responsible positions, there will be great disappointment. We speak only for the medical profession, and while we urge that the Commission shall be medical, at least as regards a majority of its members, we also urge that they be qualified for their duties. There are among the senior physicians of the city men of great respectability, who have had large experience in the public hospitals, and who would give their time to the duties of the office. We can mention the names of many physicians whose appointment would give ample assurance that the Department of Charities and Correction would hereafter rank among the best administered branches of the City Government.

ANTIVIVISECTIONISTS AND THE SERUM TREATMENT.

WE have been waiting for the antivivisectionists to put themselves in evidence in the matter of the horses who are being "poisoned" all over the world and subjected to what antivivisectionists call "diabolical tortures" in order to procure immunizing serum.

The pictorial organ of the humors of antivivisection in this town is so far discreetly silent. But England has spoken in the person of Lord Coleridge. He has appeared at the head of a deputation protesting against the appropriation of money by the city for the purpose of manufacturing antitoxin. His argument is that it is a misuse of the tax-payers' money; but behind it all is the profound philosophic feeling that it is wicked to prick a few horses in order to reduce the mortality from diphtheria among human beings fifty per cent.

THE NEW COLLEGE OF PHARMACY.

THE opening of the new quarters for the College of Pharmacy in its magnificently equipped building in West Sixty-eighth Street, marks an important epoch in the history of pharmaceutical progress, not only in this city, but throughout the country. From 1829, when this college was founded, until the present, the scientific druggists of this city have labored to elevate the standard of educational requirements of pharmacists, and have in the end succeeded in creating a new and distinct profession, which is a worthy outcome of their long and honorable struggle. The medical profession, always in active sympathy with such laudable efforts, now hails with delight the final triumph of principles as dear to it as to its sister guild.

Medicine and pharmacy must necessarily travel on parallel lines, and always be close enough to each other to grasp hands for mutual encouragement. The progressive physician and the progressive pharmacist have common interests. And now that a permanent centre has been established, which not only comprises a school of pharmacy in its widest sense, but a home for all societies and interests associated with the progress of pharmacy, there is every reason for congratulation that a proper foundation has been laid for most substantial advancement in the art and science of drug compounding.

The possibilities of the future can in a measure be imagined by taking into account the remarkable progress made during the past few years, not only in the improved methods of manufacture, but in the remarkable multiplication of new and useful remedies. All this is due, or at least largely due, to the knowledge and skill of the pharmaceutical chemist, who has replaced nauseous compounds with elegant preparations which are almost triumphs of æsthetic tastiness and proofs of gustatory delight. The bolus of olden time, which would almost gag a horse, is now replaced by the alkaloidal pellet, so tricked in the livery of a confection as to deceive the most sensitive palate, and even quinine, the bitterest dose of all, sues for truce in a sugar-coated armor.

Medicine and pharmacy are now going through an evolutionary process which must in the end sharpen the outlines of their respective functions. The community of interests must always remain, although the methods of obtaining the desirable ends for each must necessarily differ. In the line of progress it is not difficult to imagine that there must eventually be two classes of pharmacists, one for the prescription business pure and simple, the other for the sale of proprietary articles and medical knick-knacks. While from a pharmaceutical standpoint the model physician will be he who never dispenses his medicines, the ideal pharmacist of the future will be he who never substitutes medicines or advice, who never repeats a prescription without an order, and who is always a legitimate and trusted interpreter of the prescriber's interests. The realization of such possibilities is by no means chimerical. In fact, it would seem to be prophetically assured not only by the work which the College of Pharmacy has already done, but what, under its present energetic management and its talented faculty, it can be capable of doing in the future.

DOCKING HORSES.

OUR *Animal Friends*, in taking up the subject of "docking" horses' tails, assumes a task in which there is some merit as well as sentiment. It has collected a large number of statistics and opinions on the subject, which we presume are trustworthy, though antivivisection figures are proverbially peculiar. There have, we are assured, been 102 cases of lockjaw from docking reported in the year 1891 alone. The opinions of veterinarians which are submitted are of interest:

"There is no justification for docking, unless the tail is deformed or diseased."—*Professor Pritchard, Royal College of Veterinary Surgeons.*

"Docking horses is cruel, barbarous, unnecessary, and discountenanced by the profession."—*Dr. William L. Zuill, University of Pennsylvania.*

"The operation is one employed to meet the demands of fashion. It is needless, painful, and cruel, causing the animal much suffering, and depriving it of its only means of defence against flies and insects. In my opinion no language too strong can be employed condemning this cruel operation."—*Dr. Samuel K. Johnson, Chief Surgeon New York Veterinary Hospital.*

"I hope the day may soon arrive when veterinarians will refuse to perform the operation. With them, I believe, rests the solution of the problem whether or not 'docking will remain as it is, a useless, worthless, and inhumane mutilation.'"—*Professor A. Liautard, M.D., V.M.*

"Those who practise docking do it clandestinely and cannot justify their act. That docking, or the mutilation of the tail, inflicts much pain and suffering, cannot be denied. The structure involved—skin, muscles, nerves, blood-vessels, and bones—cannot be lacerated, and then seared with a red-hot iron, without causing intense and often prolonged pain."—*Dr. L. McLean, M.R.C.V.S.*

"Besides the cruelty which is acknowledged to be identical with the operation, there are reasons on the ground of physiology why the tail should be left entire."—*George H. Dadd*, "*Theory and Practice of Veterinary Medicine and Surgery*," p. 395.

"Such operations as docking, nicking, and ear-cropping of horses must be classed together as not only cruel in themselves (useless and painful operations are cruel), but which render animals less valuable."—*George Fleming, C.B., LL.D., F.R.C.V.S.*

The antivivisectionist, unfortunately, rarely inserts the dates or the context, or gives the faintest indication that there are merits on the other side. In this case, however, we doubt if there are any. Nevertheless, the practice of docking is apparently not in the least checked. Perhaps it is because the good cause has such bad advocates. People who protest in the same breath against fishing, making antitoxins, and docking horses, are regarded as somewhat weak-minded.

Semi-centennial of the Discovery of Anæsthesia.—The Harvard Odontological Society, in conjunction with the Harvard Dental Alumni Association, held a meeting on December 26th, for the purpose of celebrating the discovery of anæsthesia by Horace Wells, fifty years ago.

A HYPNOTIZED MURDERER.

THE daily papers print specific accounts of the case of Anderson Gray, who was sentenced to death for the killing of Thomas Palton. Gray did not do the act, but, as is alleged, he placed one Thomas Macdonald under hypnotic influence, and compelled him to commit the murder. Palton and Gray were enemies, while Macdonald was said to be a farm-hand, and innocent of enmity or intentional crime.

If the facts are as reported, the case is one of peculiar importance and interest; and one that ought to excite more than ordinary discussion.

It is not believed, by medical men conversant with the subject, that hypnotism can really be used for criminal purposes in the way that Gray is supposed to have used Macdonald. The French trials, in which hypnotism has been brought forward as an excuse for crime, have so far failed to demonstrate the point, and we are not aware of any case before the present one in which such verdict has been found or such sentence pronounced. It is quite possible that a person of determined character might work on the fears or passions of a weak-minded man, and cause him to commit a crime. But it is not necessary to invoke hypnotism in order to explain such an occurrence.

OUR MEDICAL STUDENTS.

THE *Journal of the American Medical Association* publishes some statistics regarding the increase in the medical students of this country which are truly alarming. In 1892 there were, it says, 15,330 students in 98 listed colleges, and a total of over 18,000 among the 117 colleges of this country.

In 1894 there were 17,701 medical students among the 98 colleges, and an estimated total of 21,186 students—despite hard times and decreased immigration.

As against this extraordinary number of embryo doctors, we find that in the United Kingdom there were in 1894 only about seven thousand (*British Medical Journal*) medical students, while in Paris the total for 1894 was 5,144, of whom 1,002 were foreigners. Making all due allowance for population, therefore, it is evident that the supply of medical students for the United States is at the very lowest three times as great as it is in Great Britain or France.

It is no wonder that medical men complain of hard times when competition must necessarily be so keen. We presume that a rather large percentage of American medical students fall by the wayside, or if they graduate fail to pursue their profession. It is at best hard to understand how 8,000 new doctors every year can earn a living. It is, in fact, becoming constantly harder for a young medical man to get a foothold. What he lacks in training at college he makes up for by long waiting after he gets his degree.

A Suggestive Advertisement.—The following advertisement appeared in a recent issue of the St. Louis *Post-Dispatch*: "To Surgeons and Foot-ball Players. —Metallic Splints, 21 pieces in case complete, never used, to be sold cheap. $15 for $9. Apply, St. Louis."

News of the Week.

Antitoxin Notes.—From the reports published on all sides it would appear that the cause of the antitoxic serum finds nowhere more sanguine support than in Holland. Subscription lists have been opened by the medical journals and the principal daily papers. The Committee of the Witte Kruis has added to its budget for next year a sum of 5,000 francs (£200), to enable Professor Foster, of Amsterdam, to prepare the serum in that city. The Leeuwarden Society for the Promotion of Public Health has sent a delegate to Paris to study in Roux's laboratory the preparation of the serum and the effect of the treatment in the children's hospitals. In Rotterdam £400 was subscribed by the public within a few days. In the Algemeene Handelsblad a horse is now undergoing immunization.

M. ROUX has now one hundred and forty horses undergoing immunization. On and after January 1st, the authorities of the Institut Pasteur hope to be in position to supply the whole of France with serum. The impossibility of getting the serum in the provinces is causing an afflux of diphtheria cases to Paris, and the attention of the Minister of Public Works has been called to the danger to the public health involved in the transport of such patients in ordinary trains.

AT the Royal Institute of Hygiene in Rome, which is under the direction of Professor Pagliani, two horses are now being immunized and will be ready to supply the serum in six or seven weeks. The municipality of Rome have also two horses ready for immunization.

Serum Antitoxin.—The *Law Journal*, December 15th, contains an article which states that provisional protection under the patent laws has been applied for and granted with relation to the production of the antitoxic serum.

To Administer the Antitoxin Treatment.—Two inspectors of the New York City Board of Health, Dr. Bensell and Dr. Huddleston, have been assigned by President Wilson to the special work of administering antitoxin in all diphtheria cases where private physicians may make demand on the Health Department for it. Dr. Huddleston is one of the bacteriological department's own inspectors, and Dr. Bensell has been connected with the Bureau of Contagious Diseases. Both men will give their entire time to this work. At present the bacteriological department has about one hundred and fifty doses of antitoxin on hand, and is manufacturing it at the rate of one hundred doses a week.

Discussion on the Diphtheria Antitoxin at the Berlin Medical Society.—The discussion of the paper on antitoxin by Dr. Hansemann, of which we gave an abstract in a previous issue, was begun at a meeting held on the subsequent week, December 5th (*British Medical Journal*). There was a very large attendance and a great deal of excitement and interest.

Von Bergmann was the first speaker. He denied Hansemann's assertion that the Loeffler bacillus was not to be found in every carefully examined case of real Bretonneau diphtheria. In 430 cases of diphtheria out of a series of 450 cases the Loeffler bacillus had

been found. In his opinion the Loeffler bacillus was undoubtedly the cause of diphtheria. He said that not without serious misgivings had he taken up the serum treatment. "A burnt child shuns the fire," he said; "and from tuberculin I had carried away bad burns." Three years ago Behring had tried to induce him to use the serum in his clinic; but he had then refused to do so, without having first seen successful experiments on animals. Behring had then experimented on a series of guinea-pigs. First he injected a Loeffler bacillus culture, and then treated a certain number with his serum. The results had been the reverse of encouraging; the guinea-pigs treated with serum all died, and the rest recovered. Of course, he (Bergmann) had then declined to use the serum. What induced him to make a trial of it much later was a conversation with Virchow, in the course of which the latter gave him the statistics obtained in the Kaiser and Kaiserin Friedrich Hospital. In view of these numbers and similar results in many other clinics, he thought it right to continue the trial of the new remedy, though a much longer space of time must elapse before he could give a final opinion of its therapeutic value.

After von Bergmann, Virchow rose. He said that treatment by diphtheria antitoxin was begun last March in the Kaiser and Kaiserin Friedrich Hospital. At that time Dr. Aronson had placed his serum at the disposal of the hospital—a present of the value of about four thousand marks—for which the hospital owed him sincere thanks. In June and July nearly all diphtheria cases were treated with the serum. The results were as follows:

In the first week,	cured	13;	deaths,	1 child.
" second	"	9	"	1 "
" third	"	6	"	2 children.
" fourth	"	12	"	1 child.
" fifth	"	6	"	2 children.
" sixth	"	1	"	1 child.
" seventh	"	3	"	0 "
" eighth	"	5	"	0 "

Suddenly the supply of serum ceased, as, unfortunately, the very horses from which the serum was taken died. The old methods of diphtheria treatment had again to be resorted to, and the results were:

In the first week,	cured	5;	deaths,	7 children.
" second	"	6	"	8 "
" third	"	6	"	6 "
" fourth	"	8	"	11 "
" fifth	"	8	"	5 "
" sixth	"	8	"	12 "
" seventh	"	13	"	6 "

This sad increase in the mortality induced the hospital to return to the serum, which was then procured from Höchst. Immediately there was a change:

In the first week,	cured	3;	deaths,	2 children.
" second	"	4	"	1 child.
" third	"	14	"	1 "
" fourth	"	14	"	2 children.
" fifth	"	17	"	1 child.
" sixth	"	17	"	5 children.

The total figures were as follows: In the whole space of time 533 cases were treated—303 with the serum, 230 without. The former had 13.2 deaths; the latter 47.8 deaths. Virchow continued that, in view of these results, he held it to be the duty of every doctor to use the serum in diphtheria. "All theoretical considerations," he added, "must give way to the brute force of these figures." He continued that, even if disagreeable by-effects were proved to occur here and there, they were not sufficient to dissuade him from continuing the treatment. Turning to the theoretical question, he said that he considered the disease artificially produced in animals by means of the Loeffler bacillus had nothing to do—anatomically—with Bretonneau's diphtheria. Nor did he consider the bacillus as the cause of human diphtheria. A theoretical explanation of the therapeutic action of the antitoxin serum must be left to the future.

Thus Virchow recommends the serum, to which he attributes a brilliant therapeutic action; at the same time he pronounces the theory which forms the basis of Behring's entire antitoxin therapeutics to be a fallacy.

In continuation of the debate at a meeting on December 12th, Dr. Bender stated that, as a result of his autopsical examinations, the diphtheria serum did not produce any direct action on the organs of the cadaver that could be recognized. Dr. Körte said that from a study of recent and old statistics he did not believe it true that the cases of diphtheria had become of a milder type. Dr. Gottstein called attention to the fact that the total mortality from diphtheria in Berlin had not yet been reduced as the result of the new treatment. Dr. Baginsky expressed himself as a strong believer in the efficacy of the serum treatment.

Results of the Antitoxin Treatment of Diphtheria at the Hôpital Trousseau.—MM. Moizard and Perrigaux report that, since September 18th, there have been 231 cases of diphtheria treated at the Hôpital Trousseau by antitoxin. The number of deaths was 34, giving a mortality-rate of 14.71 per cent.

The Dose of the Diphtheria Antitoxin.—Roux states that his practice has been to give 20 c.c. (over 5 drachms) of serum to each little patient on admission, and the same quantity, or half the same quantity, according to the severity of the case, twenty-four hours afterward; and if the pulse and temperature still remain high, the same dose is again given. He adds that the smallest quantity he has used has been over 5 drachms, and the largest quantity about 4 ounces; in one exceptional case he gave as much as between 6 or 7 ounces! Practitioners should remember these facts, and that Roux's series of cases is by far the largest and most important hitherto published.

Grip in New York.—Grip has made its appearance in this city and surrounding country. Seven fatal cases are reported by the Health Department.

Deputy Coroner.—Dr. Philip F. O'Hanlon has been appointed Deputy Coroner by Coroner O'Meagher, vice Dr. James E. Kelly, resigned.

French Hospital, New York.—Dr. George B. Fowler has been appointed Consulting Physician to the French Hospital, in place of Dr. Janeway, resigned.

New York Academy of Medicine.—At the recent annual election, held January 3, the following officers were elected: *President*, Dr. Joseph D. Bryant; *Vice-Pres-*

ident, Dr. W. M. Polk; *Recording Secretary*, Dr. Reginald H. Sayre; *Corresponding Secretary*, Dr. M. A. Starr; *Treasurer*, Dr. O. B. Douglas; *Trustee*, Dr. George L. Peabody; *Member of Committee on Admissions*, Dr. J. H. Fruitnight.

A Munificent Gift to the College of Physicians and Surgeons.—A gift of $350,000 has been made to the College of Physicians and Surgeons of this city, by Cornelius Vanderbilt, W. K. Vanderbilt, Frederick Vanderbilt, and G. W. Vanderbilt, to build an addition to the Vanderbilt Clinic at Amsterdam Avenue and Sixtieth Street, a part of the medical school, and the College of Physicians and Surgeons. This building will be fifty by one hundred feet and five stories high, fronting on Sixtieth Street. It will be used in connection with the Vanderbilt Clinic, and also in connection with the other departments, notably the department of pathology. Another building will be erected by virtue of this gift on Fifty-ninth Street, fifty by eighty feet and five stories high, for the department of anatomy. The addition of this building will be used in connection with the dissecting-room. Both this building and the addition to the Vanderbilt Clinic will be completely furnished and equipped by the donors. The two buildings are intended by the Messrs. Vanderbilt as a memorial to their father. Announcement is also made of a gift to the Medical School, from Mr. and Mrs. W. D. Sloane, of $200,000, for the enlargement of the Sloane Maternity Hospital, at Amsterdam Avenue and Fifty-ninth Street. The size of the hospital will be nearly doubled by this addition. Mrs. Sloane will completely furnish and equip the new building, has offered to provide for its maintenance during her lifetime, and will make suitable provision for it at her death. Plans for all these buildings are being made, and work will be begun on them as soon as the weather permits. They will conform to the style of the present buildings. The present gift by the Vanderbilts is a continuation of the munificence which they have shown toward the College of Physicians and Surgeons since the first gift of $500,000 was made by the late William H. Vanderbilt in October, 1884. The aggregate of the gifts to date from members of the family and from William D. Sloane, not including the amounts expended by Mrs. Sloane, over and above her endowment, to meet the operating expenses of the Maternity Hospital, is $1,970,000.

Monument to Charcot.—The pupils and former associates of Charcot in Paris and throughout France, are engaged in raising a fund for the erection of a bronze statue of him in the Salpêtrière. This movement is now receiving cordial and material support in Germany, in England, and in Italy. It has, therefore, seemed desirable to the neurological societies of New York and Philadelphia that the profession in America join in this testimonial as an evidence of the eminent services of Charcot in neurology and medicine. For this purpose the undersigned have been appointed a committee to bring the matter to the attention of the profession and to receive contributions, which will be duly acknowledged and forwarded to the central committee in Paris. It is requested that all who desire to contribute to the success of this undertaking send their subscriptions to the members of the committee nearest to them, or direct to the treasurer, Dr. C. A. Herter, 819 Madison Avenue, New York, before the first day of February, 1895.

Death of Dr. John Chapman.—Dr. John Chapman, who recently died at his residence in the Avenue de l'Opéra, was one of the best known members of the English colony in Paris. He was the author of several publications on medical subjects, chiefly relating to the treatment of cholera, sea-sickness, and other affections by the application of ice-bags to the spine. He was best known to the public, however, as one of the editors of the *Westminster Review*—a position which he held for a great number of years. In his earlier life Dr. Chapman was a publisher, and is thought to have been the last of the older generation who were booksellers as well as publishers, and stood behind their own counters. His business and his connection with the *Westminster Review* brought Dr. Chapman into contact with George Eliot and other literary notabilities. We believe it was in a kind of literary hostel or boarding-house near the Strand, kept by Chapman, that the author of "Romola" first met George Henry Lewes.

The Late Dr. Detmold.—Dr. Detmold was a unique and interesting figure among the surgeons of New York. Many will read with interest the following comment upon his career which appears in the *Evening Post:*

"Owing to his advanced age and active participation in events more than a half century ago, Dr. Detmold's professional career is peculiarly interesting, as illustrative of the growth of New York, as he was first located near the Battery, then a fashionable quarter, and afterward in Spring Street. His clinic, where orthopedic surgery was first introduced, was held in Mercer Street. When the New York Hotel, recently demolished, was first erected, his friends thought him reckless in taking an office there, as it was 'too far up town,' but as an extra fee was charged in those days for a visit above Fourteenth Street their fears were probably not realized. He was the pioneer of horseback riding here, which he kept up until his eighty-second year, after which he could be regularly seen in his carriage until within a few weeks of his death."

The Yale Faculty has decided to build a series of cottages for the reception of patients suffering with contagious diseases. They will be completely isolated, and will probably be constructed near the present Yale infirmary. Work on the cottages will begin at once.

Rabies in Mount Vernon, O.—A supposed rabid dog recently bit seventeen persons in Mount Vernon, O.

The Hotel Physician.—A hotel physician, who has evidently both candor and experience, gives this opinion of his kind of life to a reporter for *The Sun*. "Professionally speaking," he says, "the life of a hotel doctor is not pleasant. Financially speaking, it has its advantages. Just how some physicians attach themselves to hotels is peculiar. The doctors who do this seem to be averse to enduring the early struggles of a young physician. We have all heard of young physicians in the country who spend their last dollar in hiring carriages in order to wheel madly through the town with the hope of impressing the residents with the size

of their practice. There is method in such a course, and there is just as much method when a young physician in the city keeps his eye open for a hotel berth. As soon as this is found he gets together all his spare cash and hires a room in the hotel. He then gets permission of the proprietor to hang out his shingle. "In many cases physicians who started in early life with a hotel berth, merely to get transient patients and avoid the dull and heart-aching waits for practice, have continued on at the hotel until they are old men. Yet there is always a pang in their hearts. They are like many old bachelors who look around them and see their friends surrounded by happy families. There is a dull longing in the hearts of these old bachelors on such occasions. Just so the hotel doctor looks on his brother physicians with steady practice in families that have learned to regard them with fondness and esteem." The hotel physician paused in his story and then intimated that the great physicians of New York City were rather inclined to look down upon the men of the same profession who reside in the hotels, or at least upon those who have passed most of their days as hotel physicians. It is the advice of one of the oldest hotel physicians in New York City that young men starting in life would be far better off in the end if they took to the woods and built up a practice, instead of becoming hotel physicians and living in comparative ease and comfort, but without any of the real blessings of the profession.

"Sundown Doctors" in Washington Forbidden to Practise.—The Commissioner of Pensions has issued an order prohibiting Pension Office clerks from practising medicine. The explanation of this order is that a large number of men employed in the Pension Bureau hold diplomas as physicians, and have private offices where they attend to patients outside of office hours. These physicians are called "sundown" doctors, and for a great many years the medical profession outside of those who hold Government jobs has been antagonistic to them. Year after year attempts have been made to have the "sundown" doctors either give up their Government salaries or their private practice, but until now no argument could be found weighty enough to be sustained by the officials in authority. Investigation since the small-pox epidemic has demonstrated to the satisfaction of the Commissioner of Pensions, however, that contagion has been carried by the "sundown" doctors from their patients to their fellow-clerks in the departments, and the long-sought-for order has been issued. It is said to be a fact that all of the many cases of small-pox that have existed in Washington recently, and many of which proved fatal, are directly traceable to contagion brought to the Interior Department by a clerk whose child, while suffering from small-pox, was treated for chicken-pox, and buried under a certificate that she had died of the latter disease.

Pasteur.—The Paris Municipal Council has decided to rechristen the Rue d'Ulm and to give it the name of the illustrious *savant* M. Pasteur. The venerable scientist is said to be in very bad health.

A National Diphtheria Commission.—According to the *Journal of the American Medical Association*, Representative Goldzier, of Illinois, has prepared and will endeavor to secure the prompt adoption of a joint resolution for the creation of a National Commission for the investigation of the antitoxin treatment of diphtheria.

A Veterinary College is to be organized at San Francisco, Cal.

Diphtheria at the Mount Vernon Branch of the New York Infant Asylum.—Since the end of September diphtheria has prevailed to a considerable extent at the Mount Vernon Branch of the New York Infant Asylum, and it was found necessary to set apart three of the cottages at the institution for those suffering from the disease. Up to the present time there have been over eighty cases and about sixteen deaths. Recently antitoxin has been used in the treatment (a portion of the supply having been obtained from Berlin and a portion from the New York Pasteur Institute), and, while the number of cases thus treated is not large, no death is said to have occurred among them.

The Value of Nuclein and Nucleinic Acid.—Dr. Victor Vaughn gives this very modest statement of the therapeutic value of nuclein and nucleinic acid (*Medical News*). After confessing that it is practically useless in advanced phthisis, he says: "In initial cases of pulmonary tuberculosis, when there is no secondary infection, and when the area involved is small and the resistance of the patient not too much reduced, the proper employment of this agent may produce at least a temporary cure. I say 'at least a temporary cure,' because none of these cases has been under observation a sufficient length of time for me to say that the bacilli will not reappear. In the few cases of urinary tuberculosis that I report in this paper the results have been remarkably satisfactory. The results that I have secured so far encourage me to continue the work. . . . I must not close this paper without mentioning another point: I am convinced, especially from my experiments on animals, that nucleinic acid, improperly used, may do harm. It acts, as I have elsewhere shown, by stimulating the organs that elaborate the polynuclear corpuscles, and these may be over-stimulated. Nucleinic acid fails to be of service unless these cell-forming organs respond. They may fail to respond on account of lowered vitality, or they may be paralyzed, as it were, by an excessive dose of stimulant. The agent is not one to be used indiscriminately. Already some physicians are supplying tuberculous patients with hypodermic syringes and solutions of nucleinic acid, and telling them to go ahead and treat themselves. Such practice as this may make the study of this subject result in a misfortune."

Suit Against the British Medical Journal.—It is said that Dr. Stretch Dowse is about to enter an action for slander against the *British Medical Journal*, and that he will claim £5,000 as damages. In the sensational articles on massage recently published in the *British Medical Journal*, Dr. Dowse's name was mentioned as one of those who give certificates for proficiency in massage.

The Disinfection of Medical Fees.—Professor Demosthenes, of Bucharest, according to the *Bulletin Médical*, calls attention to the danger of the transmission of

contagion by fees received from patients suffering from contagious diseases. He contends that such money ought to be kept in a pocket-book of metal or impermeable cloth, which can be sterilized by the flame or by boiling, and that the physician ought to disinfect his hands before leaving the sick-room.

A Pasteur Institute at Algiers.—Thanks to the energy of Dr. Trolard and to the liberality of the Governor-General of Algiers, an antirabic institute, which is to bear the name of M. Pasteur, was opened in Algiers on October 1st. On the very day of opening a woman and a child, who had been bitten by stray dogs, were brought to the institute for treatment.

Lady Foot-ball.—Woman seems now to have a task before her in which we fear greatly she will fail. Report goes that female foot-ball teams will shortly contest in public, and the problem is now, on the one hand, to make the performance graceful, and, on the other, not to spoil the game. Those who have witnessed the modern developments of that noble sport will probably doubt whether even women will be able to harmonize such conflicting aims. Into this question we will not enter. Whether the real game played by women is a graceful or a disgraceful sight, Mrs. Grundy must decide, and whether the game played in a ladylike manner is worth looking at, will doubtless soon be settled by the polite frequenters of the foot-ball field, who, we may be sure, will not be backward in expressing their opinion. In the meantime, we enter our protest against the whole performance.—*British Medical Journal.*

Obituary.

HENRY GOLDTHWAITE, M.D.,

NEW YORK.

Dr. Goldthwaite died suddenly last Thursday morning, in his office at the Fifth Avenue Hotel, the cause of death being apoplexy. He was born in Mobile, Ala., April 13, 1842. He was the son of Judge Henry Goldthwaite, of the Alabama Supreme Court, and Eliza Witherspoon, member of the well-known Witherspoon family, of which John Witherspoon, a signer of the Declaration of Independence and a former President of Princeton College, was a member. He was a nephew of Judge George Goldthwaite, Chief Justice of the Alabama Supreme Court, and United States Senator from Alabama, and John A. Campbell, Justice of the United States Supreme Court; great-grandson of William Graham, at one time Secretary of the Navy, Governor, and Representative in Congress from North Carolina. He graduated from Princeton College in 1860. Entered the army of the Confederacy as a private, leaving the service at the close of the war with the rank of major.

After the war he was the Southern representative of Brown Bros., with an office in Mobile, Ala. In 1876 he was graduated from Bellevue Hospital Medical College, and served eighteen months as an interne in Bellevue Hospital.

He was one of the most noted and successful quiz masters in this city for a number of years, and was until recently connected with the faculty of Bellevue Hospital Medical College as an instructor. He was also one of the visiting physicians to the City Hospital.

He was a member of the County Society, New York County Medical Association, Society of Alumni Bellevue Hospital, Member of the University Club, and New York Athletic Club.

He was twice married, his first wife was a Miss Tarleton, of Mobile. In 1889, he married Mrs. Cornelia C. Munson, of Utica, N. Y., who with two children by his first marriage, survive him. Dr. Goldthwaite, in his official capacity as resident physician of the Fifth Avenue Hotel, was one of the most widely known men in the country, and numbered many of the nation's celebrities among his clientèle. He was a most genial and kind-hearted man, and was a veritable encyclopædia of interesting reminiscences.

The Late Dr. George A. Peters.—At a meeting of the Board of Trustees of the New York Physicians' Mutual Aid Association, held on the 11th ult., the undersigned committee was appointed to formulate and publish appropriate expressions of sorrow on the death of Dr. George A. Peters. In accordance with this authorization the following preamble and resolutions were adopted:

Whereas, This Board of Trustees has learned of the recent demise of Dr. George A. Peters, who was for many years a member of the Association and of the Board of Trustees, and for five years its President, taking at all times a deep interest in its success and welfare; therefore,

Resolved, That this Board herewith places on record its profound sense of loss to the Board, the Association, and to the profession, in the death of one of its most honored ex-Presidents.

Resolved, That this Board extends its sincere sympathy and condolence to his only child, Mrs. H. H. Chittenden.

Resolved, That these resolutions, signed by the President and the Secretary, and by the Committee, be published in the Medical Record and the *Medical Journal.*

(Signed) Daniel Lewis, *President,*
James E. H. Nichols, *Secretary,*
M. Blumenthal, David Magie, Charles E. Hackley, } *Committee on Resolutions.*

New York, December 18, 1894.

The following resolutions were adopted by the Board of Managers of St. Luke's Hospital, December 28, 1894:

On December 6, 1894, died, in a ripe old age, and after a life of active usefulness, the President of the Medical Board, George A. Peters, M.D. Dr. Peters was a member of the first Medical Board, organized March 1, 1859, for service in St. Luke's Hospital, and has been actively connected with it ever since. He served for over twenty years as Attending Surgeon, and for fifteen years as Consulting Surgeon, giving thus freely his conscientious service and best skill for over thirty-five years to the patients of this hospital. Others gave money for the support and development of this charity—he gave the service of his life; and none who were associated with Dr. Peters in his work will ever say that his gratuitous service to the very poorest of the patients of this institution was less painstaking or conscientious than that rendered to the wealthiest patients in his private practice. His was a unique personality; of strong convictions, of steady purpose, of practical sense, of ready wit, of intense reality.

The Managers of St. Luke's Hospital record upon their minutes, and order published, this tribute of their appreciation of his character, and of gratitude for his service. They also order that the resolutions of the Medical Board, and this resolution of the Board of Managers, be engrossed and sent to the family of Dr. Peters.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 6, 1894.

D. B. St. John Roosa, M.D., President, in the Chair.

Committee on Cancer.—In accord with a resolution passed at the last stated meeting, the President appointed the following committee on the investigation of cancer: Drs. J. D. Bryant, R. F. Weir, A. Jacobi, G. F. Shrady, T. M. Prudden, L. S. Pilcher, and H. M. Biggs.

"The Transactions."—On motion, the Council was given permission to publish the volume of "Transactions" as usual.

The Library.—Dr. George Thomas Jackson reported an addition to the library, since the last report, of fifty volumes, over two thousand medical journals, and a number of pamphlets.

The Treatment of Diphtheria, Including Serum Therapy.—Dr. H. W. Berg read the paper. (See p. 33).

Dr. W. H. Park said, referring to the bacilli shown on the screen by the author, that we recognized bacilli of true diphtheria which were virulent, and others which were not virulent, and resembling these, but differing from them in their mode of staining and in their more regular outline, were the bacteria of pseudo-diphtheria. It was true that in the early stages we might be in doubt regarding the diagnosis of diphtheria, but we saw many cases which we felt positive were cases of true diphtheria before making culture examination. In laryngeal cases it was best to assume that the condition was true diphtheria, even though diphtheritic bacilli were not found.

Prevention.—Regarding the prevention of diphtheria, he said health inspectors had reported many instances where the disease had been spread by allowing the sick to come in relation with the well too early after convalescence, especially before the bacilli had ceased to exist in the throat. Another important source of infection arose from members of the household departing elsewhere immediately upon learning of the presence of diphtheria in the family or house. An instance was cited of spread of diphtheria in this way, from a single case in a Long Island town, to different cases widely separated. Favorable reports had been made with regard to the prevention of diphtheria by inoculation with a small dose of antitoxin, which appeared to give immunity against infection for several weeks. In the treatment of true diphtheria he believed that most of us had come to the conclusion that it was non-irritating cleansing that was most important, antisepsis being less vital. All hope of killing the bacteria had been about abandoned, as the attempt would irritate the membrane and first kill the living cells and the patient. Regarding calomel fumigation, children's throats showed the bacilli just as long when it was used as when not, so that whatever value it might possess depended upon something else than the antiseptic influence.

From the few cases in which Dr. Park had seen antitoxin used, he concluded that it was a valuable remedy. It could not be judged by experience with tuberculin, since the latter when first introduced was a secret remedy and a dangerous one, while the nature of antitoxin was known to all and it was perfectly harmless. Being costly, spurious and perhaps dangerous preparations would be put on the market by irresponsible parties. The strength, or amount, of antitoxin contained in the serum should always be the guide to dosage, and not the amount of serum alone.

Bichloride Harmful.—Dr. Joseph E. Winters said it required bichloride of strength of 1 to 1,000 to kill the Loeffler bacilli, with exposure of two hours, which meant that it was an impracticable antiseptic in diphtheria. Moreover, it was positively harmful even in weak solutions, 1 to 4,000 causing irritation, and at times producing constitutional symptoms. Calomel fumigation was objectionable on the same grounds, while the benefits attributable to it in the way of stimulated secretions and ease of breathing could be much better obtained from inhalation of sulphurous acid vapor.

Hot Water Lotion.—The object of local treatment in diphtheria was not to destroy the bacilli, nor to remove the pseudo-membrane, as attempts in this direction would result in harm; it was rather to allay irritation and to wash away septic products. This could best be done with hot water or hot normal salt solution, say of a temperature of 140° F. Nothing else would give as much relief where there was much swelling and obstruction. Moreover, if it was possible for any local application to exert a germicidal effect, hot water would do it. A temperature of 140° F. would kill Loeffler bacilli, but of course the irrigating fluid of 140° had lost some of its heat by the time it reached the throat.

Regarding cleansing the nose by irrigation, Dr. Winters claimed that the plugs of membrane could not be removed by the fountain syringe. It was necessary to use the Davidson or more forcible hand syringe.

The Tent Condemned.—Dr. Winters condemned the method of enclosing the patient's bed by a tent, and said the harm from the stuffy atmosphere would more than offset the benefit from the steam or medicated inhalation. Without the tent the inhalation could be kept up indefinitely, without exhausting the patient. The use of bichloride internally had originated with the idea that it might act as a germicide, and it should no longer be countenanced. The germs did not enter the circulation, and the bichloride would have no influence on the toxin which was producing the constitutional symptoms.

Severe Cases Due to Mixed Infection.—Dr. J. W. Brannan said, with regard to predicting whether a case of diphtheria would prove mild or severe, that Roux had shown that the mortality in cases of diphtheria due only to the Loeffler bacillus, varied from five to ten per cent., while in those showing along with this bacillus also the streptococcus and staphylococcus, the mortality was seventy-five or eighty per cent. It seemed to Dr. Brannan that it would be well to bear this fact in mind in making tests and compiling mortality statistics. Regarding the death-rate in Willard Parker being lower than in European hospitals, he thought it might be accounted for by the fact that Willard Parker admitted patients of all ages, whereas, in Europe, the statistics had been taken from children's hospitals, and it was known that in infants the death-rate from diphtheria was greater.

Dr. A. Caillé had treated sixteen cases of diphtheria the past three months with antitoxin, showing the Klebs-Loeffler bacillus and being of severe nasopharyngeal type. Two had died, a mortality-rate in harmony with results obtained in Europe from this treatment, in severe and undoubted cases. Speaking of what we might expect from this treatment and what not, he said we could expect a specific effect in diphtheria from Klebs-Loeffler bacillus, but not in severe cases of mixed infection; we might expect immunizing power, such as had been claimed. It would be absurd to expect recovery in cases of heart failure or severe complications. Stimulants and irrigation with normal salt-water solution were also required.

Dr. C. A. Leale practised forced feeding by a soft rubber tube introduced through the nostril into the stomach and food injected with a hand syringe.

Dr. Fischer said he had treated 112 cases of diphtheria with antitoxin, 60 of them in this city, with a total mortality of 4, and it was his impression the mortality might have been less had the cases been selected as they ought. It should be used only in pure and simple diphtheria. Moribund cases should be excluded.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Adjourned Annual Meeting and Stated Meeting, November 26, 1894.

SENECA D. POWELL, M.D., AFTERWARD EGBERT H. GRANDIN, M.D., IN THE CHAIR.

Report of the Counsel for the Society.—The report of R. C. TAYLOR, ESQ., Counsel for the Society, was read by DR. FREDERICK PETERSON. Since it had been declared by the courts that only civil suit, not criminal, could be brought against those who had registered illegally as practitioners of medicine, it had become more difficult to reach this class of offenders, and the fines were too low for the expense incurred in prosecution. Nevertheless, seventeen cases had been brought before the courts, and those which had been tried or settled had proven successful. The judges, for specious reasons, seemed to show greater leniency toward offending druggists than others.

The County Directory.—DR. DANIEL LEWIS, editor of the "Medical Directory," read his report. It showed a steady increase in size (294 pages at present), in subscribers, in membership of the Society, in usefulness through new matter, including the "Directory of Kings and Westchester Counties." The expenses had, of course, been greater, still there had been a profit of $327, the total income having been $2,341.

Address of Dr. Powell.—The retiring President, DR. POWELL, thanked the members for their uniform courtesy and support during the year, and congratulated them upon the growth and work of the Society. The membership in 1880 had been 789; in 1894 it was 1,365. Some years ago, when Dr. Ellsworth Eliot was secretary, he had thought it proper to make a note of the fact that there was a lady member present. To-day there were on the list of members 39 ladies.

The new by-law, forbidding members recommending medical legislation which had not first received the sanction of the comitia minora and Society, might appear to some presumptuous, yet it was undoubtedly in the interests of the Society and of the profession whose sanction it had received.

Although the dispensary abuse still flourished, there was reason to believe that it was diminishing, because of sentiment properly directed against it. The President had not exercised his power to appoint a committee of five to confer with a similar committee from the Bar Association, with regard to a change in the matter of expert medical testimony in the courts, for the reason that the political atmosphere had not seemed favorable during the year.

Dr. Powell scored Governor Flower for vetoing the bill, which was simply intended to restore the punishment for the illegal practice of medicine, this penalty provision of the law regulating the practice of medicine having been, apparently by accident, omitted from the new codification. Thus we were virtually left without a vestige of a law against charlatans, abortionists, and those whose sole business was to dupe and injure the public. The County Society should frown upon advertising in newspapers and in other ways derogatory to the profession.

Inaugural Address.—DR. GRANDIN pledged to the Society which had so highly honored him his full power toward the safe guarding of the rights and privileges of every member, and toward the scientific cultivation and diffusion of medicine. We were here in the dual capacity of physicians and citizens, for our aims included not alone the relief of suffering, but also prevention of disease. He therefore dwelt a few moments upon certain matters which concerned the welfare of the Society and community.

During the administration of his predecessor it had been frequently necessary to remind certain members of the following by-law: "It is contrary to the dignity and interests of the medical profession for any member thereof to affix his name to any certificate, circular, or advertisement of any drug, nostrum, mineral water, wine, or other proprietary article intended to be used as a medicine or remedy in disease, or to any patented instrument or appliance that is intended for medical or surgical use."

Giving a certificate could not benefit older members, while it started younger ones on the wrong road in professional life. From every stand-point, therefore, it became the duty of the Society to enforce this by-law in order to maintain our own self-respect and that of professional men and laity who were not fellow-members. In the future let manufacturers do their own advertising, and we would silently test their products.

There were certain changes which it was desirable to effect in the laws in the interest of the laity and profession, and the members should exert their individual and collective influence, which was greater than many of us supposed, toward their adoption. In this line mention was made of the coroner's system, which should be abolished, as permitted by the new constitution, in favor of a system which the medical profession ought to have the privilege of drafting. Influence ought also to be directed toward the abolition of the law, which was of doubtful constitutionality, prohibiting a physician from occupying the position of president of the Board of Health.

Abortionists and Quacks.—The great general public, the power behind the throne in this country, should be made to understand where the responsibility lay for the failure of the Legislature to enact laws which would enable medical men to properly protect the public health, to drive out of the city and the State arrant quacks, to send notorious abortionists to prison, if not to the electric chair. Owing to the exercise of the veto power at Albany the past winter, our hands were tied; still must the public press be allowed to print suggestive advertisements; still, at frequent intervals, must the daily mail of even physicians contain the cards of notorious and unpunished criminals — for such, not to mince words, they all were. The time had come when we should stamp with our words, as all along we had done by our deeds, our utter abhorrence —from the stand-point of fathers, brothers, citizens, and physicians—of fœticide.

Bi-monthly Reports of Committee on Hygiene Suggested.—DR. GRANDIN suggested bi-monthly reports from the Committee on Hygiene on matters near to the public heart. The sanitary condition of the streets of this great city was often simply a disgrace to our boasted civilization. Then there was the question of street noises, with their untoward influence on the sick as well as the sound; the belching of smoke from the chimneys of powerful corporations; the senseless method in vogue of collecting street sweepings and garbage and their ultimate disposal; such and similar questions were of too great import to be briefly summarized in a report at the end of the year. By more frequent brief reports the public would be constantly reminded that this Society had an ever-present solicitude for the sanitary condition of the city.

It was suggested that if the Governor intended to appoint another health officer for the port of New York, it would be proper for the County Society to endorse some candidate who commanded the respect both of the profession and public. It would thus prove to the citizens that the County Society was ever ready to advise in matters which concerned the health of the community, as it was its right and privilege to do.

Misplaced Charity.—He had been asked by a number of the younger members of the Society to make a further attempt to draw the attention of boards of managers of certain of the metropolitan hospitals and dispensaries to the extent toward which they were giving medical assistance to other than the worthy poor. Although he had given the matter much thought, he had to confess the remedy had not suggested itself. Whatever it might be,

it lay in the hands of the managers, for medical men could not appear in the foreground in the solution of a matter which had apparently a selfish end. The managers should investigate the worthiness of all applicants, and reject the well-to-do and those of moderate means.

Committees.—The President then appointed the following committees: *Hygiene*, Drs. George B. Fowler, Clement Cleveland, R. W. Wilcox, Simon Marx, Edward N. Liell; *Ethics*, Drs. Edward B. Bronson, J. A. Andrews, Frederick M. Warner, H. C. Coe, C. S. Cole; *Prize Essays*, Drs. Robert A. Murray, W. Gilman Thompson, J. Clifton Edgar; *Auditing*, Drs. A. M. Jacobus, Herman L. Collyer.

Prevention and Treatment of Ophthalmia Neonatorum.—Dr. Charles H. May read the paper, the purpose of which was to show that the legislation of September, 1890, had not been effectual in reducing ophthalmia neonatorum and blindness in New York, and also to suggest a better law, one which would at least make it exceptional for blindness to occur in one or both eyes from the disease under consideration. He suggested that this Society appoint a committee to draft a suitable bill for presentation to the Legislature.

Dr. D. B. St. John Roosa thought there was no department in medicine in which there was as much unanimity on principles as in ophthalmology. This was noticeable in the treatment of purulent corneal inflammation, although some might use nitrate of silver, some a simple astringent, as alum, others only cleanliness. If the case were seen early the results were most gratifying, and ulceration of the cornea was almost unknown. He was unable to see why enforcing the law of 1890 should necessarily reduce the number of cases of ophthalmia neonatorum appearing at the clinics, for the very object of that law was to bring out those cases which hitherto had been kept in hiding by midwives and others. It was possible we might reduce blindness due to ophthalmia neonatorum by spreading information among practitioners and midwives as to the advantages of the method which had given such excellent results at the maternities. Let us not, he said, attempt to feed these people who were unable to feed themselves, with anything else but a spoon.

Dr. Herman Knapp thought the present treatment, although he had adhered to it with zeal, was laborious and not altogether satisfactory. The contagiousness of ophthalmia seemed to depend upon the freshness of the virus. At any rate ophthalmia neonatorum was infinitely less dangerous than the gonorrhœic ophthalmia of adults. It was an old gonorrhœa in the mother which infected the child, and in most cases it might not be the gonococcus of Neiser; it might be only an inflammation resembling gonorrhœal ophthalmia and not really such. He employed local sterilization, say by tincture of iodine, of infective corneal ulcers. Maintenance of the general health was exceedingly important in their cure.

Use of Nitrate of Silver a Needless Cruelty.—Dr Thomas R. Pooley thought the paper was sufficiently orthodox. His own view was that infection causing ophthalmia neonatorum did not occur until the child was born, for until that moment the eyes were firmly closed. After birth the first thing the infant did was to squawk, then to poke its hands into its eyes. Thorough irrigation of the vagina should be practised before labor to prevent infection getting on the hands; afterward observe strict cleanliness, and ophthalmia neonatorum would not arise. He believed it was needless cruelty to instil a one or two per cent. solution of nitrate of silver into the baby's eyes. Perhaps we would have more respect for it if some one would kindly instil some of the solution into our own eyes. He believed Credé's method might just as well be put aside. Nitrate of silver was often used too early also in purulent ophthalmia, and thus gave rise to a false diphtheritic membrane. Do not use cotton in cleansing the eye, but water. Boracic acid was much more preferable than sublimate solution. He agreed with the author that reports from midwives, and also from physicians, should be made to the Board of Health, and the latter should see that the law was enforced. Moreover, there should be a city hospital for the reception of cases of purulent ophthalmia, under the jurisdiction of the Board of Health and the care of ophthalmologists and trained nurses.

Children of Primipara Oftenest Affected.—Dr. W. F. Mittendorf said, among other things, that in his practice sixty-five per cent. of cases of ophthalmia neonatorum had occurred in the first-born, a midwife having usually been in attendance. He impressed the danger of infection of attendants when cleansing the infant's eyes, and had known one young physician to lose an eye in that manner, and give up the practice of medicine in disgust. A warm appeal should be made for antiseptic midwifery.

Dr. J. A. Andrews thought the statement that ophthalmia neonatorum was much milder than gonorrhœic ophthalmia in the adult was somewhat misleading. The difference was due largely to the fact that the tissues in the child were more resisting. Cleanliness was very important. Nitrate of silver was useful, but in the way it had been used it had destroyed many eyes. As a preventive he would not use Credé's method unless the mother had a discharge.

Dr. Emil Gruening thought as many eyes were destroyed by too little treatment as by too much. He instructed the nurse never to touch the upper lid nor the eye in cleansing, nor for any other purpose. Pressure upon the bone below would open the lower lid without injury to the ball. Some said use ice, others warmth, but really neither was very necessary, for the lid itself was a poultice. What was required was removal of matter in such a way as not to injure the cornea.

Dr. E. A. Tucker, of the Sloane Maternity, thought there had been overwhelming cumulative evidence in favor of the Credé method. Cleansing the vagina might be well enough if the patient were long enough in the hospital, which was not the case at the Sloane Maternity; yet during four years' stay in that institution he had scarcely seen one case of ophthalmia neonatorum—nothing more than a slight ophthalmia here and there about the eighth day, from the mother putting milk into the baby's eyes, or from the latter's dirty hands. The custom was, after birth of the infant, to drop one or two drops of a two per cent. solution into the eyes. Allow it to remain a fraction of a minute, then wipe it away.

Dr. May, in some closing remarks, also expressed the opinion that statistics were too strongly in favor of Credé's method to justify dispensing with it in infirmaries and tenements.

A motion was adopted, instructing the comitia minora to consider the propriety of drawing up a bill, requiring midwives and physicians to report cases of inflammation of the eyes in the newly-born to the Board of Health, the comitia to report back to the Society.

An International Congress on Childhood will be held in Florence in the spring of 1895. Among the questions to be discussed are, the physical, moral, and mental elevation of children, children's hospitals, the care of deaf-mute and blind children up to the time of their admission into an educational institution, care of poor and abandoned children, reformatories, and vagabondage in its relation to childhood.

Taxing Betting for the Benefit of Hospitals.—The French Government compels a certain proportion of the money made by betting on horse-races to be paid into the treasury for the benefit of the public charities. The hospitals last year received about $50,000 from this source.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

Semi-Annual Meeting held at Cumberland, Md., November 21 and 22, 1894.

FIRST DAY—WEDNESDAY, NOVEMBER 21ST.

THE Medical and Chirurgical Faculty of Maryland convened in session in the Council Chamber of the City Hall, at Cumberland, at 10 A.M. After the address of welcome by Dr. J. M. Spear, and the address by the President, Dr. R. W. Johnson, the first paper was read.

Distention of the Stomach.—This was a paper by DR. H. SALZER, in which he spoke of the methods of diagnosis of diseases of the stomach, and especially distention of that organ, by examination of the gastric secretion. He did not always use the stomach-tube, but let the patient vomit the substance taken and then made an examination. He referred to the relaxed conditions of the abdominal muscles with movable kidney. The kidney was almost always palpable. He attributed this trouble to evils of dress and frequent pregnancies.

DR. WILLIAM OSLER thought that the method of Dr. Salzer was more pleasant than the one by the use of the stomach-tube. He thought that the examination for movable kidney, as suggested by Dr. Salzer, was important. He generally found signs of dilatation of the stomach in neurasthenic patients, and palpable, if not movable kidney, and it may be at times floating kidney. He believed in the abdominal bandage after pregnancy, and it was important in preventing these troubles.

DR. GEORGE J. PRESTON thought that all those who saw many cases of neurasthenia would be interested in this paper. It is a question how far the nervous condition affects the distention, and how far it ought to be treated. In many cases that he had treated he had noticed diminished knee-jerk.

DR. E. M. SCHAEFPER would support what he had said about the corset and absence of exercise. He thought the use of the tight corset was potent to do much harm, and exercise would correct many troubles, and he approved of the bicycle in certain cases.

Some Suggestions as to the Treatment of Wounds, Involving at the Same Time the Lens and the Ciliary Region.—This was the subject of a paper by DR. ROBERT L. RANDOLPH, in which he reported two cases where he did not find it necessary to remove the eye, but took out the lens, and one case recovered with some vision.

DR. HARRY FRIEDENWALD read a paper on the "Removal of Particles of Steel from the Interior of the Eye with a Magnet." He related several cases successfully treated and showed the magnet and explained the manner of using it.

The Diagnosis and Treatment of Diphtheria.—DR. WILLIAM H. WELCH made some remarks on this subject. The study of the antitoxins is the order of the day. The evidence that the Klebs-Loeffler bacillus is the cause of diphtheria is very conclusive; no one can doubt this now. It is constantly present in every case of genuine diphtheria; isolated in pure culture it is productive of the disease, and the disease can be produced experimentally in no other way. We are familiar with the toxic principle of this disease, and we know its physiological but not its chemical properties. This substance has been found in the body of those dead from diphtheria. There is probably no organism the study of which has led to such practical results as this. It gives us the diagnosis, prognosis, and treatment. The diagnosis can be made with certainty by the demonstration of the specific bacillus. There are many diseases which are like diphtheria in their clinical history, such as membranous croup. Then there are the cases where the disease would not have been recognized on account of the slight symptoms if the bacillus had not revealed the diagnosis, and these light cases are the very ones which spread the disease. Then our increased knowledge of this disease allows us better to understand its symptoms, and the question whether it is a local or constitutional disease is cleared up. It develops locally; the bacilli are attached to the membrane in the pillars of the fauces, and here the toxins find their way into the body, causing the constitutional symptoms. The prognosis hinges to some extent on the demonstration of associated bacteria. Other bacteria may be associated with Loeffler bacillus in the throat; thus the presence of the streptococcus gives an unfavorable prognosis and offers fewer chances for success in treatment. An accurate diagnosis is not only important in order to carry out the treatment, but makes it possible to take sanitary precautions. Of those who are exposed to diphtheria not a small number receive the bacillus without contracting the disease, especially in crowded districts. The organism has been found in as many as fifty per cent. of the persons exposed, whether they took the disease or not, which shows that there must be a susceptibility, which is a very important point. This susceptibility may be local, that is susceptibility exists for the local effects and not for the toxins, or the reverse may be true, the local effects may be slight and the general systemic poisoning very severe, and in some cases there is no susceptibility at all. Some cases show a thick membrane and little poisoning, and *vice versa*. The method of making a bacteriological diagnosis is a simple one. As little of the membrane as possible is taken, or some of the secretion from the posterior pillar of the fauces near the larynx. First coverslip preparations are made. If it is a case of genuine diphtheria the diagnosis can be made in about fifty per cent. of all cases without further examination. Still this is not so conclusive, as it is not quite so characteristic as the tubercle bacillus, but it is quite characteristic. For culture medium the Loeffler blood-serum mixture is used. It is usually sterilized now by exposing it to a heat just below the boiling-point for half an hour. It is easy to sterilize, since it is normally sterile, as Lister long ago showed. The mixture is opaque when rapidly sterilized and clear when done slowly. When a small piece of the membrane or some of the secretion has been smeared over the surface of the culture medium and put into the incubator at a body temperature, the culture appears in eighteen to twenty-four hours. Even if kept at the temperature of the room there will be a feeble growth. Usually the growth takes place rapidly. The difference between the growth of the true and false bacillus may be seen in the beef bouillon. In most beef, of which the culture medium is made, there is usually a little inosite or muscle sugar. This undergoes a change in color when the true bacillus of diphtheria is inoculated into it which does not occur when the false bacillus is inoculated. The question is now how to make this method of diagnosis available to all physicians. In New York City this problem has been beautifully solved, much to the admiration of the whole scientific world. Formerly many cases of ordinary angina or sore throat were called diphtheria, and much glory was reaped by the physician who cured the case. Now the bacteriological diagnosis shows that only about one in four is true diphtheria, and this not only separates the cases and makes a certain diagnosis, but it saves those other three cases from exposure to the disease, for in most instances these supposed were put at once in the diphtheria wards, and if they did not have diphtheria before, they promptly acquired it there. In carrying out the serum therapy only artifically immune animals can be used; those naturally immuned will not do. The animals usually selected are the horse, goat, cow, and dog. The manner of procedure is to inoculate the animal selected with a minute particle, part of a pure culture of the organism. A change takes place in the blood and a new substance is found there. After each injection of the poison there is a diminution of the antitoxins at first, and then they increase, and so on until in course of time the antitoxin takes its place in the blood and a large dose of the culture will not affect the animal. This is

not exactly analogous to the tetanus injections. It takes from three to four months to immunize an animal. In simple cases where there is no association of the streptococcus, a few injections will effect a cure. Roux's experiments showed that in all cases under ordinary treatment about one-half died, whereas in the antitoxin treatment about twenty-six per cent. died. A mixture of the pure culture of the diphtheria bacillus and antitoxin in a test-tube does not destroy the bacillus but holds its action in abeyance when this mixture is injected into an animal; but if the streptococcus be added and then this mixture be injected, poisoning takes place, from which it is concluded that the streptococcus keeps the antitoxin from acting, and allows the poison to affect the victim. Roux advises against any caustic treatment of the throat, as making the cure more difficult.

Dr. James A. Steuart said that this was a great advance; that health officers had sometimes difficulty in distinguishing dangerous from ordinary cases.

Dr. I. E. Atkinson thought that such practical steps should be taken in Maryland.

Dr. John N. Mackenzie had had great success in treating diphtheria with the dioxide or peroxide of hydrogen.

Dr. John Morris thought there should be no municipal or State control of this remedy, and referred to the poor vaccine matter furnished by the State of Maryland.

Dr. I. E. Atkinson said it was largely the fault of the profession that we did not have good vaccine matter. State and municipal duties had not been carried out, and it was because the profession had not demanded them.

Dr. E. T. Duke defended the vaccine matter of Maryland, and said that as health officer of the city of Cumberland he had used it very successfully, and referred to an institution in which he had vaccinated fifty persons, and forty of them had taken.

After some discussion on the State and municipal control of the antitoxins, by Drs. G. H. Carpenter, G. J. Preston, John Morris, and W. H. Welch, the subject was closed.

Purpura Hæmorrhagica.—Dr. G. H. Carpenter then reported a case of this disease, and advocated the use of the tincture of the chloride of iron in large doses, say forty drops every two hours. He also expressed his opinion that the disease was much graver in character than was usually taught.

Electricity in Gynecology.—This was a paper by Dr. W. J. Craigen, in which he reported several cases treated by electricity, and spoke of the use of high currents and their dangers, and referred to the possibility of resuscitation after a severe electrical shock, as was suggested in New York.

Gastrostomy for Cicatricial Stenosis of the Pharynx and Œsophagus.—Two cases of this accident were reported by Dr. Randolph Winslow, and he showed how this operation had saved the life of his two cases, and gave some promise in one case of ultimate recovery.

Hysterical Pyrexia.—Dr. George J. Preston then read a paper on this subject, in which he showed that: 1. In hysterical individuals a rise of temperature may occur, due probably to disturbances of the heat-regulating centres in the central nervous system. 2. The type of this fever is either continuous or intermittent. 3. The type of fever is characterized by its great irregularity and atypical exacerbations, by the fact that the pulse and respiration frequently remain normal, or nearly so; that the temperature is often different on the two sides of the body; by the temperature not yielding readily to antipyretic measures; and by the unaltered urine and by the unchanged nutrition. 4. Hysteria often complicates existing fevers, changing their types. 5. The hysterical manifestations would be more frequently noted if the temperature were taken in all cases.

Dr. William H. Welch thought that the question of fever from central nervous origin was an important one from many points. It most likely comes from diminution of heat loss and there is no evidence of increased production. In some cases there are remarkable irregularities in heat distribution. It may be high in the vagina and normal in the axilla, and *vice versa*. By taking the surface temperature great differences may be found.

Dr. G. J. Preston had noticed many of the points above alluded to. There may be the greatest differences between the temperature of the two sides of the body. The fever may be out of all proportion to the organic lesions and may be caused by hysteria.

Chills as a Cause of Error in Diagnosis.—This was the subject of some remarks by Dr. William Osler. Chills differ very much in their etiology, but they may be divided into two main groups: 1, Those from sudden shock to the nervous system; and 2, those from absorption of the toxic material formed by organisms. In so-called nervous chill fever is absent. In the second group there is always fever. The first group need not detain us. The nervous chill is that met with in gallstone colic or in the passage of a catheter. This initial chill is without fever, but subsequently, of course, there may be chills with fever due to infection. The disease most often associated with chills is malarial fever, and here the chill is of a characteristic kind, so that the name "chills and fever" is synonymous with malaria. The two great diagnostic points in malaria are the invariable association of the plasmodium of Laveran and the invariable curative effects of quinine. These are the two special features of the malarial chill. It may be said that within forty-eight hours the chill will cease in genuine malaria if quinine be used. On the other hand, the paroxysms continue, and under its use malaria may be excluded, except in a few cases of the autumnal fevers, malarial fevers which may resist quinine for a few days, but these have not the same character of ordinary intermittents. He had not met a single instance of genuine malarial fever which quinine had not stopped.

Chills cause errors in diagnosis in various affections. In tuberculosis the error may be made early or late in the disease, for it is at the two extremes of pulmonary tuberculosis that we have chills. These are a special feature of the early stages of tuberculosis. He has had many cases of early phthisis brought to him as malarial fever. Errors occur frequently in regions where paludism is common. Then there is the large group of septic processes with fever, such as abscess of the liver, which is a common cause of chills and fever in this latitude. There are few very cases of abscess of the liver which are not at first regarded as malarial fever, and thus much valuable time is lost in the treatment. Malignant endocarditis is another disease which is ushered in by chills and which is often treated for malaria. A not frequent source of error is the chill following and associated with pleurisy of a tuberculous form and from empyema following the infectious diseases, as scarlet fever, etc., and following the formation of pus. The chills in typhoid fever are of the greatest importance, and have attracted attention for years. They occur in two or three per cent. of all cases. Very often the chill is due to the doctor's giving powerful antipyretics. He had seen cases in which chills and fever had followed a large dose of antifebrin. In certain affections of the urinary passages, and more especially in pyelitis, chills occur which are often obscure. In chronic obstruction of the common duct by gallstones there is the condition called by Charcot hepatic intermittent fever due to catarrhal cholangitis. In new growths of various kinds, as in cancer of the stomach, in Hodgkin's disease, and lastly in syphilis, errors in the fever may be made. The important points in the diagnosis of chills are the use of quinine and the examination of the blood.

Dr. John Neff reported a case of fever in the course of typhoid fever in which there was a kidney complication with albumin and casts. The use of nitro-glycerine caused improvement.

Dr. Harry Friedenwald referred to a case of otorrhœa which had high fever, and which turned out to be due to a thrombosis of the lateral sinuses.

Dr. John Morris made some interesting references to the fevers of former days and the manner of treatment.

Dr. G. H. Carpenter spoke of having seen cases of tuberculosis with fever which he thought was malarial because it occurred in malarial districts. He also said he had seen a certain number of cases of fever in the course of typhoid fever which he called typho-malarial fever.

Dr. I. E. Atkinson referred to some obscure cases with fever, and he said that milk fever was a thing of the past as we know it now, and it was not due to the condition of the milk or the breasts. Septic fever occurred in the course of typhoid fever.

Dr. J. J. Wilson spoke of a case of typhoid fever in his practice in which there were several chills, and finally an abscess of the parotid gland developed.

Dr. William Osler was glad to hear Dr. Carpenter's remarks about typho-malarial fever. Many physicians treat ordinary cases of typhoid fever as malarial from beginning to end. There is no such thing as typho-malarial fever. The two diseases may exist concurrently. Quinine will cure malarial fever, but it will not influence typhoid fever at all. Cases of so-called typho-malarial fever are typhoid, and should be treated as such. Too many lives have been lost by neglect of this caution. In nearly four hundred cases of typhoid fever which had been now treated at the Johns Hopkins Hospital, in no case had malaria co-existed.

Second Day—Thursday, November 22d.

Treatment of Retro-Displacements of the Uterus.—This was the subject of a paper by Dr. Thomas A. Ashby, in which he reported several cases, with the results of his treatment. He considered the subject under four heads: The congenital; the acquired forms without adhesions; the acquired varieties associated with inflammatory conditions of the tubes and ovaries; and those cases in which the tubes and ovaries are not involved to any extent, but where the uterus is firmly attached to the pelvic peritoneum by firm bands of adhesions.

Dr. W. J. Craigen asked if he had ever had trouble with a hemorrhage after breaking up adhesions. It is not good to leave the uterus with a partially diseased stump after removal of the tubes and ovaries.

Dr. E. M. Schaeffer was glad to hear him speak of massage and also the use and abuse of the corset.

Dr. Ashby had never had any trouble with hemorrhage after the operation if the blood-vessels are looked for and tied. He does not believe in removing the uterus unless it is diseased; then tie off the stump and disinfect it, and do not remove more tissue than is absolutely necessary. This is a principle of surgery which should be followed in gynecology. Massage should always be tried first. He had seen return of the uterus to its normal position by manipulation. He believes the corset is a cause of trouble, but can Dr. Schaeffer tell us how to avoid it?

Wandering Kidney, with Report of a Case of Nephrorrhaphy.—This was the subject of a paper by Dr. R. W. Johnson, in which he spoke of the importance of a correct diagnosis and the ease of making it, and the causes. He related a case which had passed through the gynecologist's hands and had lost both ovaries without feeling better. He found a wandering kidney, which he fastened in place, and the case recovered.

Dr. Ohr referred to cases in his practice, and spoke of the difficulty of making a diagnosis of floating kidney in stout persons.

Dr. R. W. Johnson would not advise removal of the kidney unless there was some good reason for it. He is in favor of conservative surgery and referred to removals of the vermiform appendix. He did not advise operation for hernia as long as the truss will retain the hernia, and as long as the case is in a civilized region where trusses can be found and operations can be done in an emergency.

The Use of Food as Medicine.—Dr. E. M. Schaeffer read a very practical paper on this subject, showing the importance of using proper food both in health and disease and the necessity of cooking it in the right way. He showed charts illustrating the comparative values of food by bulk and nourishment, and made some strong objections to the dress of women.

Dr. E. N. Brush said that persons should be taught not only what good food is, but how to purchase it and how to cook it.

Dr. S. J. Fort said that he treated epilepsy and imbecility by giving the proper food.

Dr. William B. Canfield said that while it was eminently proper to insist on nourishing food, many persons preferred to eat what they liked rather than what was good for them, and in making a diet list palatability should be considered. Many a person sick or well preferred a savory and tempting dish, even if not so nourishing or digestible, and often the palatability made it more digestible in spite of chemistry and physiology to the contrary. The diet of rice, as pointed out by Dr. Schaeffer, may be very nourishing, but it was also constipating and not to be borne by many. He noticed that little reference was made to the use of sugar in food. He thought that the craving of children and some adults for candy was a natural one, and he did not think good candy in moderate amount was injurious.

Dr. G. H. Carpenter said he knew more about cattle-raising than he did about bringing up a healthy race, and the former was much easier. He agreed with Dr. Canfield in what he said about the palatability. Natural selection in the human race is hard to carry out in practice. It is important to gratify the appetite when no actual harm is done.

Dr. T. A. Ashby said that disease in women was divided into two classes, that in the married and that in the unmarried. In the sterile woman the disease is generally from some defect formed in childhood. Then hygienic measures are important. About ninety per cent. of the diseases in child-bearing women are due to the child-birth. Sexual selection is ideal, and so also are the charts which Dr. Schaeffer shows.

Dr. Schaeffer said in conclusion that rice constipates because it was so thoroughly digested that there is little residue. There is no waste as in other foods. Rice properly cooked forms a very palatable dish. The Chinese recognized the value of rice when they ate rice and butter.

Treatment of Insomnia.—Dr. E. N. Brush read a paper on this subject. He deplored the multiplication of hypnotics, which had been encouraged by physicians so much of late, and spoke of natural methods as inducing sleep. He referred to baths, proper clothing, and attention to general hygiene.

Dr. Schaeffer agreed with Dr. Brush, and thinks that attention to food and drink will often take the place of drugs, as he had already shown in his paper.

Pseudarthritis.—Dr. S. J. Fort then presented a paper on this subject in which he related cases of hysterical joint trouble simulating rheumatism in children.

Treatment of Pulmonary Consumption in Large Cities.—Dr. William B. Canfield read a paper on this subject in which he referred to the great advances made in the pathology of that disease and the failure as yet to find a specific remedy. He said that cod-liver oil and tonics were still relied on in most large cities. Out-door life, equable climate, good food, comfortable clothing,

slight occupation in some cases do more than drugs. With our present light the proper treatment of consumption in large cities, especially the incipient cases, is by small hospitals where each case can be individually studied.

"Spring Catarrh of the Conjunctiva" was the subject of a paper by Dr. Harry Friedenwald. "Dirty Air in Public Places" was a paper by Dr. E. M. Schaeffer.

Papers by Dr. George Thomas on "Illumination of the Accessory Cavities," and by Dr. J. T. Smith on "Acute Pericarditis," were read by title. The profession of Cumberland and vicinity were very cordial to the visiting physicians.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE BRADSHAW LECTURE—JAMES SYME AND HIS AUTHORITY IN SURGERY—THE MEDICAL COUNCIL AND THE OBSTETRICAL SOCIETY'S SHAM DIPLOMAS—DEATHS OF DR. WITHERSMOORE, DR. JOHN CHAPMAN, AND DR. BISSETT HAWKINS.

LONDON, December 15, 1894.

THE Bradshaw lecture was delivered on Wednesday. (12th), before the College of Surgeons, by Mr. Oliver Pemberton, of Birmingham, who is to be congratulated on stepping out of the usual run of subjects. He devoted the lecture to James Syme, his influence and authority on the art and science of surgery. Syme was professor at Edinburgh from 1833 to 1859, and during the whole time he had a most remarkable influence—perhaps no one has exercised a more emphatic authority, certainly no one has excelled him in the value of his suggestions for saving lives and limbs in the practice of surgery. Mr. Pemberton naturally drew attention to the fact that in his earlier years Syme had not the advantage of anæsthetics. The greater difficulties of surgery in the early period ought not, therefore, to be forgotten. In 1828, when he had no hospital appointment, Syme performed excision of the elbow-joint for the first time in Great Britain, and to him is due the honor of establishing that operation. To him is also due the honor of introducing into this country and perfecting tibio-tarsal amputation—a procedure which, however, had been previously tried on the continent. Still previous operations were not to be compared to Syme's, for modern success is due to his ingenious improvement which secures the pad of the heel as the covering for the joint. This procedure, the lecturer said, was adopted by Syme in 1842. The next illustration of surgical genius offered was the treatment of urethral strictures; as to which Syme taught that, 1, no stricture is truly impermeable; 2, that all which cannot be relieved by dilatation admit effectual relief only by free division of the contracted part of the canal; 3, this can only be attained with certainty and safety by external division. Thus Syme was the first to practice external urethrotomy, and his skill and success were most remarkable, for he only lost two cases out of one hundred and eight. The lecturer then referred to Syme's success in dealing with aneurisms, and showed that this success depended on his departure from the Hunterian method, which had previously ruled. In this connection he remarked that he had "a happy touch in dealing with arteries," for he tied the femoral twenty-five times with but one failure, from suppuration of the sac caused by prolonged pressure and the ill health of the patient. Syme also excised the greater part of the inferior maxilla in 1827 for an enormous growth involving the bone, and the case is an historical success. The lecturer concluded by an appeal to the members of our calling, wherever English surgery is known, to endorse the view that in contemplating Syme's professional life we see an authority in the practice of our art approached by few, surpassed by none.

After the lecture the audience had an opportunity of examining the specimen of the successful operation on the jaw mentioned above.

The Medical Council has perhaps never done anything more satisfactory to the general practitioner than in passing the resolution pronouncing it "infamous in a professional respect" for registered practitioners to issue documents which are "colorable imitations" of diplomas entitling the holders to registration. The council followed this up by declaring the certificates issued by the Obstetrical Society to come within the purview of their resolution and directing this opinion to be communicated to the Society. Much satisfaction is freely expressed at this course. Although here and there some excuse has been offered for the Society in times past, it has long been felt by most people that the unauthorized assumption of the Society must be injurious, and not a few have from the first held that severe condemnation was called for. The Society has no status whatever as an examining body, and the issue of certificates to midwives was certain to lead to the certificated practising on such "diplomas," which have no more value than the testimonials of any registered practitioners. Now that the Medical Council has put its foot down, the Society must amend its ways, and the more quickly and gracefully it complies with the requirements made, the more likely are its past offences to be condoned. Any hesitation must be treated with the same justice as is being so properly meted out to other delinquents.

The death roll of the profession is continually being added to. Among notable men recently deceased is Dr. Withers Moore, who was president of the British medical meeting at Brighton in 1886, when, with many others, I had the opportunity of witnessing the energy, impartiality, and urbanity with which he discharged his duties. He retired some time since and died rather suddenly from angina pectoris on the 5th inst. in his seventy-first year.

Dr. John Chapman died at Paris aged seventy-two. He was a man of distinguished physique and great intellectual endowments. Your readers will remember the ability with which he deduced his views of vaso-motor therapeutics and maintained the possibility of greatly influencing this system by the application of warmth or cold to different parts of the spine. The use of cold proved the more important agent, and Dr. Chapman was known to not a few as the advocate of ice-bags to the spine in numerous conditions. He was, however, engaged in other work as well as the practice he carried on in London and subsequently in Paris. He was for many years the proprietor and editor of the *Westminster Review*, one of our most able quarterlies, which not long since became a monthly.

Dr. Francis Bissett Hawkins, who died on the 7th at Bournemouth, seems to belong to the long past, for he had reached the great age of ninety-eight. He was said to be the oldest living Oxford graduate, and was Senior Fellow of the College of Physicians, of which he had been Senior Censor, and held other offices. He had also had government offices in his day, such as inspectorships and commissionerships of prisons, in lunacy, etc. He was a Justice of the Peace and had retired many years. He wrote in the "Encyclopædia of Practical Medicine" issued in 1835.

The Pittsburg Academy of Medicine is a flourishing society. It has been in existence five years, and during that time it has established a nurses' directory, a pathological laboratory, and formed the nucleus of a library. Recently it has undertaken to make diphtheria antitoxin and furnish it under direction of the city government. It is hoped that it will, before long, be housed in a properly equipped building of its own.

THE DIAGNOSIS AND ANTITOXIC TREATMENT OF DIPHTHERIA.

(Special Report to the MEDICAL RECORD.)

DR. GERMAN SIMS WOODHEAD, the distinguished Director of the Research Laboratories of the Royal College of Physicians and Surgeons, London, delivered a lecture on this subject recently at the Examination Hall. This lecture, which has been looked forward to as an almost authoritative exposition of the present aspect of the subject, was listened to with rapt attention, and will go far to promote cautious scientific views.

Dr. Woodhead opened his lecture by brief remarks on the increase of diphtheria in London, where last year the deaths were 3,195 as against 1,962 the year previous. Having added some statistics of the incidence of the disease at different ages, and a brief historical summary of the investigations of Klebs, Loeffler, and others, the lecturer went on to say that these observers agreed that the micro-organism found in the lesions had perfectly definite characters. In the false membrane it usually occurs as small rods about 3 to 6 μ in length, rather shorter than the tubercle bacillus, but from one and one and a half to twice as thick. It is straight, or very slightly curved, rounded at the ends, and these, somewhat enlarged, are more deeply stained than the central portion. It occurs singly or in groups, forming, when in sufficient numbers, a kind of interlacing reticulum or irregular masses of considerable size. In a case of true diphtheria these bacilli are almost invariably found on the surface of the false membrane, while in other cases they are situated somewhat more deeply, but are seldom, if ever, found in the mucosa, that is, the true mucous membrane, from which they are separated, according to Loeffler, Roux, Yersin, and Ruffer, by a layer of fibrous lymph in which are found numerous leucocytes.

Loeffler first pointed out that the bacillus did not make its way into the tissues and fluids of the body, but that it appeared to form most powerful toxic substances, apparently from the fibrinous effusion, and that these toxic products, rapidly taken into the circulation, set up the grave constitutional disturbance seen in this disease. These toxic substances were afterward studied more carefully by Roux and Yersin, who came to the conclusion that they were most powerful poisonous substances, probably of the nature of enzymes, which in exceedingly minute doses were capable of setting up profound toxic processes. Sidney Martin then worked out the subject carefully and thoroughly, agreed generally with previous observers, and obtained still more accurate results, for he was able to separate from the spleen of diphtheritic patients two substances, one apparently of the nature of an organic acid, and the other of a poisonous albumose, while from the false membranes he obtained a much more highly toxic substance, corresponding to Roux and Yersin's enzyme. He concluded that this enzyme, absorbed into the body, acts upon the proteids of the spleen and gives rise to the less poisonous, but still very active, organic acid and tox-albumoses. All these substances appear to act specially on the peripheral nerves and upon muscles, setting up in these structures what he describes as segmental neuritis in the one and fatty degeneration in the other. The methods of microscopic diagnosis were then described, and Dr. Woodhead said that the Metropolitan Asylums Board had decided that a bacteriological examination of the fauces of patients suffering from diphtheria, both when they come into and are discharged from their hospitals, is advisable, especially as the preliminary steps of the process are readily carried out with very little expenditure of time on the physician's part, and with no discomfort and absolutely no danger to the patient.

He then stated the arrangements made, which are that from his laboratory will be sent out to the various hospitals under the management of the Board, as required, small cases containing, 1, a test-tube (plugged with sterilized cotton wadding) in which is a quantity of suitable solidified nutrient medium carefully sterilized; 2, a second tube, also plugged with cotton wadding, in which is held a small, soft steel rod, roughened at the end, around which is fastened a pledget of cotton wadding, the whole being carefully sterilized by dry heat. When a case of diphtheria is to be examined all that is necessary to be done is to take these tubes from the box, take out the wire with the pledget of cotton wool, and press it gently but firmly against the membrane of the throat or at the place from which the membrane has disappeared. The serum tube is then opened and the pledget is drawn carefully once or twice from bottom to top of the inclined serum surface. The cotton-wadding plug is returned, the wire with the pledget is replaced in the empty tube, and the box is packed up and sent at once for investigation to the laboratories. In those cases in which fragments of the membrane can be easily detached it is advisable, with a platinum spatula previously heated and allowed to cool, to remove a fragment and to place this in the tube along with the iron wire. Such a fragment may be used in case the first inoculation fails to give the necessary results. The serum tube is placed in the incubator, and is examined at intervals until growths make their appearance, eight to twenty hours at the latest, so that the case, even when inoculations are to be made, can be reported upon within twenty-four hours of the receipt of the material.

Dr. Woodhead next passed on to the consideration of the method of preparing toxins from the diphtheria bacillus, the process of immunization of the horse, and the method of testing the immunized serum, after which he gave the results of the serum treatment obtained in Paris, Berlin, and Budapest. These results were most striking, and the introduction of the treatment had been followed by diminutions in case-mortality in one instance from 51.7 to 24.5 per cent.; in others from 34.7 to 23.6; from 25 to 20; from 46.5 to 33.3; and from 53.8 to 33.1 per cent. The necessity for carefully carrying on and improving, if possible, the method or treatment by serum is proved, Dr. Woodhead held as follows: First. By the results obtained from clinical examination. Second. From the startling results obtained by experiments on small rodents, which can easily be protected against enormous doses of most active diphtheria toxin. Third. From the remarkable property possessed by this antitoxic serum of neutralizing the diphtheria toxins, even when the process is carried out in an ordinary test-tube. Fourth. From the fact that in diphtheria the disease is essentially the result of the manufacture of poison practically outside the body, so that if we can attack the disease at its source, and can at the same time neutralize the poisons that are diffused into the body, we have the control of the disease; and as the disease runs such a rapid course it is possible to ascertain whether the case is improving or going backward almost immediately, or within the course of thirty-six hours. When the disease is once got under we have little or no fear of any return. Fifth. It is not even a process of vaccination, though it is quite possible, from what has been seen in experiments on animals, that a temporary protection may be obtained which will carry the child over the period of danger in an infected house or district. The antitoxic serum is a direct therapeutic agent, only to be used in patients actually suffering from the disease. Sixth. Cautious observers, both among pathologists and physicians who have had an opportunity of observing a number of cases treated, have acknowledged that they have been surprised at the results obtained, and Virchow, who almost from the first deprecated the extravagant claims that were put forward for Koch's tuberculin, has stated that, in view of the remarkable results obtained in carefully observed cases of diphtheria, it is

the duty of every physician to employ the antitoxin serum remedy, in spite of the fact that a certain number of attendant drawbacks have been described.

Dr. Woodhead declared that a good deal of nonsense has been written about the danger of injecting organic fluids into the body, especially organic fluids taken from animals suffering from disease—such as glanders and tuberculosis. The obvious answer to such objections is, that the serum is never taken from an animal so diseased. If mallein—that is, the products of the glanders bacillus from which living bacilli have been absolutely removed—is injected into the subcutaneous tissues of a healthy horse there is as little disturbance, either local or general, as if a similar quantity of neutral salt solution had been injected. But if the animal has glanders when this material is injected, we have a local manifestation at once; a swelling at the point of injection, the temperature of the animal rises, and this so regularly that anyone accustomed to the use of mallein as a diagnostic agent can determine within twelve hours whether the horse is suffering from glanders or not. By the use of tuberculin in a similar fashion the freedom of the animal from tuberculosis can be determined, so that the horse may very readily be proved to be in good health, as far as these two diseases (the only two dangerous to man about which there is much difficulty of diagnosis) are concerned. It has also been asserted that the horse is suffering from diphtheria, and that only the poison which is accumulated in the blood is injected into the human patient. Against this may be placed the fact that the toxin will certainly not neutralize its own action, and if we were dealing simply with toxin we should have not an antidotal, but, on the contrary, an accumulative effect. Many of those present, he said, have seen cases of diphtheria, at first apparently mild, gradually develop the most distressing symptoms. Nothing was more pitiable or painful than to see the distress of the little sufferers as the disease has become more fully developed, and one has felt one's utter helplessness to relieve more than temporarily the dreadful suffering one has had to witness. "I for one," said Dr. Woodhead—"and I am sure that in this my feelings are shared not only by medical men but also by those who have had to watch and wait while such scenes were going on—feel that any remedy that promises results even far less favorable than those claimed for this method of treatment, should be placed at the disposal of those who have to do battle with this terrible disease. We must improve the sanitary conditions and the general surroundings of those who are most liable to the disease, in order to prevent the disease or keep it at as low a limit as possible, but we have also a duty to perform to those who are actually smitten down." In conclusion, Dr. Woodhead drew attention to the munificence of the Goldsmiths' Company, who have placed at the disposal of the Royal College of Physicians and Surgeons the sum of $1,000, to be devoted, in the first instance, to the defraying of the cost of investigations directed to the elucidation of some of these obscure points, and, in the second place, to the preparation of antitoxic serum for the treatment of the poor of East London. Also to the public spirit of the Metropolitan Asylums Board, who, in the interests of their patients, have been the pioneers among the public bodies in this country in instituting bacteriological examinations of their cases of diphtheria with a view to clearing up the diagnosis in some, at any rate, of the dubious cases. Their efforts, he said, are appreciated by the Laboratories Committee, who will give all the help that is in their power to make these investigations useful as regards their patients and helpful to those on whose shoulders rests the serious responsibility of diagnosis.

A Fresh Drink.—FIGG—How well you're looking!
FOGG—Yes, I've been drinking well water all summer.

TESTIMONIAL TO SIR JOSEPH LISTER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Sir Joseph Lister, having recently retired from active hospital and teaching work, the occasion has been thought appropriate for presenting him with a testimonial of the esteem in which he is held by his former colleagues and pupils, and committees have therefore been formed in Glasgow, Edinburgh, and London for the purpose of raising the necessary funds. It is proposed that the testimonial shall take the form of a portrait. Subscriptions have been limited to two guineas, and it is hoped that sufficient funds will be collected to permit of some memento of the occasion being presented to each subscriber of that amount.

As there are probably many surgeons in the United States who may wish to join in the movement, but whose names and exact addresses it has been difficult to ascertain, I should be glad if you would permit me to state that subscriptions may be sent to me at 29 Weymouth Street, Portland Place, London, W., England, or to one or other of the following gentlemen who have kindly consented to act as treasurers, viz.: Dr. James Finlayson, 4 Woodside Place, Glasgow, Scotland; Professor Chiene, 26 Charlotte Square, Edinburgh, Scotland; Professor William Rose, 17 Harley Street, London, W., England; Dr. Malloch, 124 James Street, South Hamilton, Ontario; or J. Stewart, M.B., 37 South Street, Halifax, Nova Scotia.

I have the honor to remain, Sir,
Yours faithfully,
J. FREDERICK W. SILK,
Honorary Secretary.

P. S.—Two guineas are about $10.23.

"VAGINAL HYSTERECTOMY BY ENUCLEATION."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of December 1st, 1894, under the above heading, appears an interesting record of a case in which the removal of the uterus through the vagina was effected without either clamp or ligature. At the end of his article Dr. Goffe remarks: "The operation was done at the New York Skin and Cancer Hospital, October 12, 1894, and I believe it is the first time the operation has ever been done in New York." Having seen Dr. Pratt, of Chicago, perform several vaginal hysterectomies without the use of the clamp or ligature in 1893, I determined to follow his example, as it appeared to me the operation was based upon sound principles. My first vaginal hysterectomy was done on June 27th; my second on September 19th. In neither of the cases was the clamp or ligature required, the patients making remarkably rapid recoveries.

Very truly yours,
W. T. HELMUTH, JR., M.D.

FOOT-BALL AS IT SHOULD BE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your editorial in the MEDICAL RECORD of December 1, 1894, on the "Brutality of Foot-ball," was very timely. But you well say that "there is no game that equals it in many ways when played as a manly sport and not for gate receipts." It is the gate receipts which inspire the short-haired to "slug" for the belt, and it may be that the long-haired have thoughts of them when they indulge in "hacking."

The occasional injury received at foot-ball is now the cause of war, but if the financial managers of teams do not curb their apparent immense extravagance, foot-ball advocates will be put on the defensive. For, according to a newspaper report, the expenses for four games lately played by a Northern team were over $20,000!

Last season's manner of playing was a renaissance of "Tom Brown's School Days," which resembled the Roman *harpastum*, to seize, etc. But this was not the foot-ball game as played by the refined Greeks.

The rough Rugby game of seizing and carrying the ball, charging, and "tackling," which game we play, is not the Harrow and Winchester game, wherein kicking alone is allowed.

James the First forbade the heir apparent playing the game of his day, saying that it was "meeter for laming than making able the users thereof."

As I have lately witnessed several games, and have been in close contact with foot-ball men both in the class-room, and on the field, and at the table, I will give a few impressions of them, and of the game.

The team of the University of Virginia, the champions of the South, played nine games, and it played such teams as the Princeton, and the University of Pennsylvania. Only two or three of them received such injuries as to keep them from the class-room a single day. One of them, a man about twenty-seven years of age, had a doubtful fracture of a clavicle, and the other skinned knees.

As the tragic actor knows how to make the fall when struck or shot down, so properly trained foot-ball men know how to fall. The candidate for the team has to be physically examined by a competent physician.

The game should be played on a well-turfed field, and men over twenty-five years of age should not play the game of 1894. Injuries to them may be serious. When one of delicate sensibility sees for the first time a game of foot-ball, he thinks that the police and the ambulance corps should be called in, but he will be early seen at the next game, and the next.

The diet, the abstinence from alcohol and tobacco, and the general training of a foot-ball man are of course most conducive to health of body and mind, and as a consequence his class standing is near the top; and according to the regulations of athletics by the Faculty Committee of the University of Virginia, "any member of an athletic team who is reported for neglect of his studies or non-attendance on lectures, may be required by the Faculty to sever his connection with such team."

The cold bath after an exhaustive game is of doubtful propriety. Emergent action, quick memory—for more than sixty rules regulated the game as far back as sixteen years ago—and herculean body, are most eminently promoted by foot-ball.

THOMAS R. EVANS, M.D.

NUTTALLBURG, W. VA.

THE ASSOCIATION OF MEDICAL OFFICERS OF THE NATIONAL GUARD AND NAVAL MILITIA OF THE STATE OF NEW YORK.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of December 1, 1894, page 696, in an item entitled "New York State Association of Military Surgeons," you give a list of officers elected. This, I believe, was the Association of Railway Surgeons. The military association is known as "The Association of Medical Officers of the National Guard and Naval Militia of the State of New York."

The present officers of the Association are as follows: *President*, Dr. Joseph D. Bryant, of New York City; *Vice-Presidents*, Dr. D. M. Stimson, of New York City; Dr. William H. Spencer, of Brooklyn; Dr. Herman Bendell, of Albany; Dr. A. H. Briggs, of Buffalo; *Treasurer*, Dr. Nelson H. Henry, of New York City; *Secretary*, Dr. Daniel S. Burr, of Binghamton. Officers ex-officio members of the Executive Committee.

Additional members of the Executive Committee: Dr. Robert V. McKein, of New York City; Dr. George R. Fowler, of Brooklyn; Dr. Lewis Balch, of Albany; Dr. Charles N. Cox, of Buffalo; Dr. John Vander Poel.

Respectfully,

NELSON H. HENRY.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 5, 1895.

	Cases.	Deaths.
Tuberculosis	54	77
Typhoid fever	8	6
Scarlet fever	111	11
Cerebro-spinal meningitis	2	4
Measles	64	11
Diphtheria	218	46
Small-pox	5	0

The Medical Staff of the West Side German Dispensary has organized a clinical society under the name of the "Society for Medical Progress of the West Side German Dispensary." The officers for the first year are: *President*, Augustin H. Goelet; *Vice-Presidents*, Lewis Morris and V. Fuentes; *Secretary*, Aristides Agramonte; *Treasurer*, H. C. Hazen.

The Award of the Saint-Paul Prize.—About fifteen years ago the sum of 25,000 francs was given to the Paris Academy of Medicine by M. and Mme. Victor Saint-Paul as a prize to be awarded by the Academy to anyone who shall have discovered a remedy "recognized as efficacious and sovereign against diphtheria." There are no other conditions than this—the contestants for the prize may be of any nationality and of any profession. The prize was established in memory of a son of the donors who died of diphtheria in Turin while on his way home from a journey in the East. Since its foundation the Academy has been inundated with treatises, prescriptions, letters, and even telegrams, sent from all parts of the world by enthusiasts who believed that they had at last discovered the sovereign remedy. The question now is, will the Academy award the prize, and if so, will it give the same to Behring, to Roux, or to whom?

The Influence of Albinism upon the Eye.—Dr. George M. Gould desires information as to the condition of the eyes of albinos, and requests all who have had albinotic patients to send answers to a set of questions which he has drawn up for this purpose. The blanks will be gladly sent on application to Dr. Gould, 119 South Seventeenth Street, Philadelphia, Pa.

Two Operations for One Appendicitis.—Dr. Olaf Page, of Valparaiso, Chili, reports a case in which he operated for an acute appendicitis. The case progressed favorably for a week, and then the symptoms of obstruction returned and death seemed imminent. The wound being reopened, it was found that the trouble arose from constricting bands on the left side of the abdominal cavity. The original wound was now closed, and a median laparotomy performed through which the bands were reached and divided. After this there was no further trouble.

Verdict Against a Physician.—A verdict of $12,000 was awarded by a jury a few weeks ago against Dr. L. H. Willard, a prominent homœopathic physician of Pittsburg, in a malpractice suit. The plaintiff, a charity patient, was treated by Dr. Willard at the Homœopathic Hospital of Pittsburg for a fracture of the fibula. He left the hospital against the advice of Dr. Willard, and was subsequently treated by a physician in Somerset County, who testified that both bones of the leg were broken. A number of well-known physicians testified that the injury was properly treated by Dr. Willard. The case had been tried twice before. The first time the jury awarded the plaintiff $5,000 damages; in the second trial the jury disagreed.

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Original Articles.

THE TREATMENT OF INOPERABLE MALIGNANT TUMORS WITH THE TOXINS OF ERYSIPELAS AND BACILLUS PRODIGIOSUS.[1]

BY WILLIAM B. COLEY, M.D.,

ATTENDING SURGEON TO THE NEW YORK CANCER HOSPITAL; ASSISTANT SURGEON TO THE HOSPITAL FOR RUPTURED AND CRIPPLED.

I AM conscious that the treatment of inoperable tumors is a very trite subject, yet in consideration of the fact that practically no advance has been made in this field since the disease was first known, I am sure I need offer no apology if I can show that there has been even a single step forward. No one can blame the profession for sound conservatism, or even scepticism, in regard to anything that is claimed to cure inoperable malignant tumors. Past experience fully justifies its attitude, and I believe it should not accept a single statement until it has stood the rigid tests of scientific demonstration. By these tests alone I desire you to judge the cases I have already reported, as well as those I have the pleasure of presenting to-night. My results in thirty-five cases of inoperable tumors treated with the toxins during the past three years, were reported in detail at the last meeting of the American Surgical Association,[2] at Washington, May 31, 1894, and will be only briefly referred to here.

Four very remarkable successes since then, and the additional experience gained from the observation of twenty-four new cases, are, I think, sufficient reasons for bringing this subject again to your attention.

Up to last May my cases were treated with the filtered toxins, prepared by growing the erysipelas streptococci in bouillon three weeks, then filtering through porcelain, and preserving by adding thymol. The toxins of bacillus prodigiosus were prepared in the same way, and the two were mixed at the time of using. In some of the cases the two germs were grown together in the same flasks, and then filtered. This method of preparation failed to utilize whatever of value exists in the bodies of the germs themselves, and I decided to try preparing the toxins by subjecting the cultures to the lowest temperature that would suffice to destroy the germs. This I found by experiment to be about 58° C. This preparation has been used exclusively in the series of twenty-four cases which I report to-night, and it is, I think, much more efficacious than the filtered toxins.

The following is a brief history of the more important cases treated since June 1, 1894, and not yet reported:

CASE I.—Female, twenty years of age. Recurrent spindle-celled sarcoma of palm of hand; six operations. This case appears in the tables of my previous paper (*loc. cit.*) as Case VI., and is merely mentioned as having shown marked improvement, and as being still "under treatment." The subsequent history makes the case worthy of a fuller report.

The first operation was performed in the fall of 1888. The tumor did not recur until the summer of 1891. A second operation was performed and recurrence again followed; the third, fourth, and fifth operations were performed, recurrence each time occurring after shorter intervals.

The fifth operation was performed in January, 1893, by Dr. Samuel Lloyd, of New York, and recurrence followed within three weeks. I saw the patient, in consultation with Dr. Lloyd, in February, 1893, and at that time a tumor, the size of half a hen's egg, was seen in the palm of the right hand at the site of the old cicatrices. It was a typical sarcoma clinically, and the diagnosis had been repeatedly confirmed by microscopical examination. Amputation of the forearm had been very strongly urged, but the patient refused consent to such operation. The axillary glands were slightly enlarged, her general condition was only fair. Injections with the mixed toxins were begun under my direction, and often by myself personally, and the treatment was continued by Dr. Lloyd, with longer or shorter intervals, during the whole spring. The tumor decreased some in size and failed to grow when the injections were stopped for a short time. She had little treatment during the summer, and in October, 1893, the axillary glands were very much enlarged. The tumor in the hand was also beginning to increase in size. Dr. Lloyd operated upon the axilla and removed several glands, some of which were as large as large olives, and typically sarcomatous. The tumor of the hand was then treated with the injections of the mixed toxins.

The patient was unable to remain in a hospital, and the injections were given at Dr. Lloyd's office. This made it impossible to push the injections to the desired limit, and made the treatment otherwise unsatisfactory. Whenever the injections were given regularly and in fairly large doses the tumor remained in control, and furthermore decreased in size.

In June, 1894, she was admitted to my service at the New York Cancer Hospital, and the injections were pushed to their limit for about three weeks. The tumor softened and also decreased some in size. As the patient's general condition had been running down for several months, I thought it wise to give ether and scrape out the more or less necrotic sarcomatous tissue. It was found to extend very deeply, entirely surrounding the palmar tendons of the middle, ring, and little fingers, and infiltrating between the metacarpal bones so as almost to appear on the dorsal side. It was removed as well as possible with a Volkmann spoon and scissors, and the extensive wound allowed to heal by granulation; no further injections were given. She quickly began to improve in health, and has now regained her normal weight and strength. She has gained twenty pounds since July. No trace of any trouble can be detected either in the hand or axilla. This case is important, as it shows that a rapidly growing sarcoma was held in check one year and a half by the toxins, even when given under unfavorable conditions, and also that the malignancy of the disease was probably destroyed.[1]

CASE II.—This case I owe to the courtesy of Dr. George F. Shrady, who kindly asked me to begin the treatment at St. Francis Hospital. Bernard M——, aged twenty-three, German, printer by occupation. His family history is good, and up to one year ago he had enjoyed perfect health. Ten years ago he fell from a fourth-story window, but was supposed to have suffered

[1] Read at the General Meeting of the Academy of Medicine, November 15, 1894.

[2] American Journal of the Medical Sciences, July, 1894.

[1] The case remains in perfect health January 1, 1895, nearly six months since cessation of treatment.

no permanent injury. Three years ago he fell in the streets, striking upon his back. He, however, noticed no trouble from either of these injuries, until one year ago a tumor appeared in his back, in the region of the right buttock. There was little pain, and his attention was first called to it by the fact that he was unable to button his trousers. The tumor was hard, apparently rising from the ilium, and gradually extended until it had involved nearly the entire right half of the ilium. In February, 1894, it had reached the size of a child's head, and extended from the middle of the sacrum behind nearly to the edge of the rectus muscle in front, filling up a large portion of the right iliac fossa. The tumor was firm in consistence, the skin over it normal, and not adherent. The right inguinal glands were very much enlarged. The patient was considerably emaciated, and was losing flesh and strength rapidly. He was shown at the New York Academy of Medicine by Dr. Kammerer, in February, 1894, before the Surgical Section, and the question as to the advisability of subjecting him to the treatment with erysipelas and prodigiosus toxins was discussed. The weight of opinion was that the tumor was too large and the case too far advanced to offer even a hope of success. It was thought best, however, to try the injections for a brief time, and the treatment was begun at St. Francis Hospital in March 1894. Injections were continued at intervals of twenty-four to forty-eight hours for a period of one month. The tumor very quickly began to break down, and fluctuation appeared over a large area. Free incision and irrigation were employed, and the tumor continued to break down and slough out in large masses for a number of weeks after the injections were stopped. The patient was considerably depressed both by the treatment and by the sloughing process, and for some weeks his condition was exceedingly critical. His temperature ran very high for a month after the injections had been stopped, due to the absorption of the broken-down tissue. As the discharge began to diminish, his condition improved, and by June he was able to be up and about the ward. Since that time he has steadily improved, regaining his flesh and strength with remarkable rapidity, and on September 12, 1894, physical examination was as follows: In right lumbar region, one inch below the crest of the ilium, is a cicatrix three inches long with a small sinus at either end. Two inches below this cicatrix is another small sinus; four inches further down a third. No dead bone can be detected with a probe, and there is only a slight discharge from the sinus. The inguinal glands on the right side are slightly enlarged, but steadily diminishing in size. There remains no trace of the large tumor already described at the beginning of the treatment, and the general condition of the patient has nearly returned to normal. He now weighs (November 15th), one hundred and forty-eight pounds, a gain of twenty-nine pounds since August, and fully forty pounds since June. He has resumed his occupation as a printer.

I will say that no microscopic section was examined before treatment was begun, but the clinical history and physical examination, verified by a large number of surgeons of the Surgical Section at the Academy, left no doubt as to the diagnosis. It was an osteo-chondro sarcoma, as several hard cartilaginous masses sloughed out, examination of which showed them to be chondroma. The majority of the tumor was sarcomatous tissue.[1]

CASE III. *Spindle-celled Sarcoma of Scapula with an Extensive Involvement of Chest-wall.*—Sarah C——, aged sixteen, was admitted to the New York Cancer Hospital June 20, 1894. There was no history of malignant disease in the family, and her personal history was good up to four months previous to admission. At that time she first noticed a small tumor in her back, over the left scapula. The tumor rapidly increased in size, and gradually extended, both in front and behind, until it had involved the larger portion of the left thoracic wall. It was associated with constantly increasing pain and interference with the movements of her arm. Physical examination, June 25, 1894, showed the following condition: There was a hard fixed mass involving almost the entire region of the left thorax behind, extending from the clavicle to the lowest rib, vertical measurement being thirteen inches. Horizontally it extended from the median line behind to the middle of the sternum in front, and from one inch below the clavicle seven inches downward, involving a large portion of the region of left breast. The entire tumor was firmly fixed to the chest-wall, but the overlying skin was normal in appearance, and not adherent. The left arm could not be raised to a right angle, and movements forward and backward were correspondingly limited. A portion of the tumor was removed, and microscopical examination proved it to be a spindle-celled sarcoma. In consideration of the rapidity of the growth and enormous extent involved, I did not believe even temporary arrest possible, nevertheless I decided to try the injections for two or three weeks and watch the effect. To my astonishment, improvement was immediate and very rapid. Within three weeks the arm could be raised to a vertical position, and within one month the growth in front had nearly disappeared. The injections were continued at intervals of from twenty-four to forty-eight hours, and the reactions were never severe enough to keep the patient in bed more than a few hours after the injection. The improvement continued without any interruption until the latter part of October, when no trace of the tumor could be found either in front or behind. The treatment has been discontinued since that time, and the patient is presented this evening without the slightest suspicion of the sarcoma or even any induration visible. She has regained her normal weight and her usual health and strength.

This case is to my mind the most brilliant of the entire series, and must be regarded as the crowning triumph of the toxin treatment. Here we have a tumor, the great malignancy of which was shown by the rapidity of its growth and the extensive involvement that had occurred within four months, and the diagnosis of spindle-celled sarcoma established by the microscopic examination of a skilled pathologist,[1] entirely disappearing within three and a half months from the beginning of the treatment with the mixed toxins.

There are some points of unusual interest in this case. 1. All of the injections were made in one portion of the tumor, over the lower part of the scapula, and within a radius of two inches. 2. There was no breaking down, the tumor disappearing entirely by absorption. 3. Only a single preparation of the toxins was used throughout, viz., mixed cultures of erysipelas streptococci and bacillus prodigiosus, grown together in bouillon and sterilized by subjecting them to a temperature of 58° C.

CASE IV. *Probable Sarcoma of Sternum.*—The patient, aged thirty-nine, female, was first seen by me in consultation with Dr. Farquhar Ferguson, August 21, 1894. Two of her sisters had suffered from cancer, but she herself had been well up to four months before consulting me. At that time she noticed a small swelling over the upper portion of the sternum. It steadily increased in size, was but slightly painful, and seemed fixed to the sternum. Her general health had become considerably impaired and she had lost weight. Physical examination showed the upper third of the sternum occupied by a tumor three inches in diameter, symmetrical in outline, and firmly connected with the ster-

[1] Since the paper was read, a portion of the thickened ilium at site of tumor was removed, December 1, 1894, for examination, and no trace of sarcoma could be found on microscopical examination.

[1] Dr. G. F. Brooks, Pathologist to Post-Graduate Medical School and Hospital.

num itself. In consistence it was about the same as an ordinary sarcoma when the cellular structure predominates. A few enlarged glands were present along the border of the left pectoral muscle.[1] The injections were begun August 23, 1894, and severe reactions followed the administration of very small doses. The injections were repeated every other day, and at the end of the first week most of the tumor was soft and fluctuating. A small incision was made under cocaine and the broken-down material allowed to escape. The injections were continued in the portions of the tumor still hard for about four weeks longer. At the end of that time it had apparently disappeared, there only remaining two small sinuses at the points where incision had been made to permit the degenerated tumor-tissue to escape.

Her general health has much improved, and although the case is too recent to speak of it as a permanent cure, the results in my earlier cases make it not unreasonable to hope for a cure in this case.[2]

Carcinoma.—Of the cases of carcinoma I have only time to mention in detail a single case.

Mrs. W——, aged thirty-four, with a good family and previous personal history, came to the Methodist Episcopal Hospital in July, 1894, with a very rapidly growing epithelioma of the lower jaw, involving the floor of the mouth, under portion of tongue, and all of the soft tissues of the chin. There was an area the size of a silver half-dollar, the site of a typical epitheliomatous ulcer. The tumor had followed quickly an injury to the chin, and this fact in connection with the age of the patient, would have pointed to a diagnosis of sarcoma, had not an examination showed it to be epithelioma.

She was kindly referred to me by Dr. George R. Fowler, and treatment was begun early in July; from three to seven minims of the mixed toxins were injected into soft parts of chin which were involved in the disease. Within two weeks the ulcer had nearly healed, and within three weeks it had entirely healed and the parts almost regained their normal appearance. The floor of the mouth also showed a striking improvement. This improvement unfortunately did not continue more than a few weeks, and then a change for the worse appeared, and the injections no longer seemed to control the disease. A number of other cases of carcinoma, including epithelium, showed striking but only temporary improvement. I have seen very great œdema of the arm, caused by recurrent cancer of the breast, disappear with astonishing rapidity after two or three injections.

My feeling as regards the treatment of carcinoma with the toxins has, up to the present time, been very conservative, and until further experiments have been made I should not advocate its general adoption.

The increasing number of well-authenticated cases of carcinoma that have been permanently cured by attacks of accidental erysipelas, as well as the undoubted antagonistic action I have observed in my own cases treated with the toxins, should make us extremely hopeful that, in the near future, some of the success that has been achieved in sarcoma may be extended to carcinoma.

This is not the time nor place to attempt an explanation of this curative action of these germs. It would bring up the whole discussion of the etiology of cancer, a question surrounded by almost innumerable obstacles, and not yet settled to the satisfaction of the majority of the profession. Personally, I believe the evidence at present strongly in favor of the microparasitic theory of the origin of both sarcoma and carcinoma. Accepting this theory, the explanation of the action of toxins on malignant tumors is very easy; on any other theory I believe an explanation impossible.

Results with others who have Tried Toxins in the Way I have Recommended, and Using the Same Preparations.—At the American Surgical Association, at Washington, last May, in the course of the discussion, Dr. Keen stated that he had had no beneficial results in several cases that he had treated with the toxins. In my reply I stated that, up to that time, I had had the greatest difficulty in getting a stable preparation and one that could be relied upon for any length of time. The results that I reported at the time only followed persevering and often prolonged efforts, using many cultures differing greatly in value. It should be remembered that up to that time I had not recommended the general use of the toxins, and only at the request of a few surgeons whom I personally knew, was any sent for trial. It is clearly unfair to allow the results of a few such imperfect experiments to stand as a test of the value of the treatment.

Fortunately, since that time, with the help of Mr. B. H. Buxton, who has, during the past year, devoted a large portion of his time to investigating this subject, and aiding me in perfecting the preparation, it has been found possible to obtain a preparation of the mixed toxins sufficiently stable to render accurate dosage possible. It is much more effective than any I had hitherto used, due to the increasing virulence of the streptococcus caused by passing it through a series of rabbits.

The method of preparation I will refer to more in detail later, but at present I wish to refer to a few cases to prove that like good results can be obtained from the treatment in other hands than those of its author.

Dr. R. Tilly, of Chicago, in a letter dated August 16th, describes a case of sarcoma of the orbit, which he considered beyond operation, mostly on absolutely unfavorable prognosis. He tried at first the filtered toxins, with little or no benefit. He then used the unfiltered, including the bodies of streptococcus and B. prodigiosus, killed by temperature 58° C. The first three doses had no effect; the fourth gave a very severe chill and a temperature of 106° F. Within twenty-four hours the temperature was 97° F. The injections were continued about every other day for two or three weeks without much rise of temperature.

The tumor had steadily decreased, and August 16, 1894, it had entirely disappeared. I have not heard of the subsequent history of the case.

Dr. J. Alexander Moore, of Helena, Mont., has used the toxins in four cases. He obtained the preparations from me, and used them as nearly as possible in the way I have advised. His first case was a scirrhous cancer of breast, recurrent. The left lung and liver were involved. He began injections January, 1894. He states that the disease was undoubtedly restrained locally for some time, but owing to the advanced stage and generalization the treatment was discontinued.

Case II.—Epithelioma involving entire lower lip, two years' history. Growth ulcerating. Injections for above three weeks failed to produce any decrease in size.

Case III.—January 15, 1894. The patient, aged thirty-one, female. Recurrent, small, round-celled sarcomata of supra-clavicular region. Operation had been done May, 1893. Recurrence in two months followed. Injections with toxins of erysipelas and prodigiosus were begun January 15, 1894, and continued every two or three days until February 15th; at that time the original tumors, several in number, had entirely disappeared, but other new ones appeared.

The patient lived at a distance from town, and the treatment could not be given with regularity. On September 15, 1894, there were five small nodules

[1] Material drawn with aspirating needle was examined by Dr. Ferguson and he believed it to be sarcoma.

[2] A tumor in the left lumbar region broke down under the injections in sternal tumor and discharged material that could not be differentiated from that coming from sternal tumor.

Later Note.—January 15, 1895. A recent examination of scrapings from sinuses in sternum and back, by Professor E. K. Dunham, shows that both tumors were probably of tubercular origin. The effect of the toxins is in harmony with the well-known effect of actual erysipelas upon tubercular lesions of skin and glands referred to by Mauriac.

to be felt at site of former tumors. Dr. Moore writes: "The injections, when prosecuted with vigor, have never failed in this case to reduce or obliterate the tumors." When the nature of these tumors—small round-celled sarcoma, the most malignant type—is considered, the efficacy of the toxins cannot be doubted.

CASE IV.—Male, aged thirty-one, tumor, size of a goose egg, attached to right mastoid bone, and not adherent to skin. The lymphatics were enlarged and indurated. The growth had been noticed two months. Treatment was begun April 4, 1894; very good reactions followed. There was some breaking down of tumor. August 20th, the tumor had entirely disappeared. Two small lymphatics could still be felt just above clavicle, but these were gradually becoming smaller. It is true, no microscopic examination was made in this case, but the case had been examined by other physicians of skill and experience.

Dr. Moore writes: "I am quite satisfied as to the effect of inoculation with the toxic products of erysipelas and B. prodigiosus in sarcoma, but only reasonably so in carcinoma."

Dr. George M. Kreider, of Springfield, Ill., surgeon to St. John's Hospital, writes me that he has used the toxins in three cases. The preparation used was the unfiltered, sterilized by 58° C., prepared by Mr. Buxton, the same as used by myself in the case reported.

One case was an inoperable sarcoma of the ilium of unusual size, involving not only the ilium but surrounding tissues. He writes that the result was very striking, but owing to the prostration of the patient he was obliged to stop the treatment. "Two hundred grammes (6¼ ounces) sloughed out, and it would seem certain that, had treatment been undertaken sooner, he would have recovered."

"The other cases of cancer have made gratifying progress, notably one case of uterine cancer. She was bedridden because of the swelling of the right leg and foot. The swelling disappeared entirely in three weeks, and has not returned, although the patient is on her feet continually. The pains and bleeding have also disappeared."

Dr. Thomas F. Rumbold, of San Francisco, has tried the toxins in a patient suffering from recurrent round-celled sarcoma, with the following result: In June, 1892, a tumor the size of a hickory-nut was noticed from the right breast. On July 7, 1892, it was removed and pronounced non-malignant, but within a few weeks it returned; a second operation was performed, taking off most of the breast. Within six months a third and fourth operations were performed, removing the whole of the breast but not the axillary glands. In July, 1893, the tumor again recurred. A very thorough operation was then made by Drs. Lane and Plummer, of San Francisco, and the axillary glands, which were then involved, were removed. A microscopic examination showed the tumor to be round-celled sarcoma. Since then three other operations, making eight in all, were performed. The sarcoma again recurred and was growing rapidly, when early in August, 1894, Dr. Rumbold wrote me requesting me to send him some of the toxins. The first injection was made August 14, 1894.

In a letter dated September 12th he says: "I am very glad to inform you that the case has progressed very favorably; in fact, the treatment has been a marvel in all respects to everyone who has seen the case. She is visited twice a week by a number of the most prominent physicians, who are greatly interested in the case and treatment. I do not think there is one-eighth of the tumor left, and I believe she would recover entirely without another injection; but, to make matters sure, I will continue the injections, as suggested in your letter."

A later letter states that the tumor had entirely disappeared. The patient was considerably weakened by the treatment and was suffering from persistent nausea.

Time will permit me to refer to only one other case outside of those of my own personal cases; but this case is too important to leave unnoticed. As the case was reported in full at the last meeting[1] of the Throat Section at the Academy, I need only give a very brief summary of the facts:

The patient was a boy, aged sixteen, with a very large spindle-celled sarcoma of the palate and pharynx. He was a patient of Dr. Walter B. Johnson, surgeon to Paterson General Hospital, of Paterson, N. J., and I was asked to see the case in consultation, in October, 1893. The physical examination at that time, made by Dr. Johnson, showed a tumor involving the entire soft palate, pillars of the fauces, region of the tonsils, and extending forward over the hard palate to within a half-inch of the incisor teeth, backward and downward, involving a portion of the pharyngeal wall, the whole base of the tongue, the epiglottis, and upper part of the larynx, but not extending to the true vocal cords. The infected parts were thoroughly impregnated with sarcomatous deposit, and the soft palate was increased to about three times its normal thickness. The growth consisted of cauliflower-like granulations, varying in size from a kernel of rice to a pea. The uvula was entirely destroyed; the cervical glands were enlarged. The patient had lost considerable flesh and strength, but was not cachectic. His weight was 86 pounds. He had difficulty in deglutition, and could not breathe through his nose. A microscopical examination made by Dr. James W. Williams showed the growth to be spindle-celled sarcoma. The tumor was so extensive that I expressed very little hope of any permanent benefit being derived from the toxins, but advised giving the treatment a short trial.

Dr. Johnson began, October 31, 1893, and continued the injections with occasional intervals for seven months. The reaction temperature following the injection varied between 99° and 103° F. The preparation used was the filtered toxins, grown separately and kept in separate bottles, mixing them at the time of injection. I had not then begun growing them together.

The result of the treatment is a constant, slow improvement, some of the sarcomatous tissue undergoing necrobiosis, some disappearing by absorption. In October, 1894, the patient weighed 107 pounds. He had had no treatment for three months, and the tumor had apparently entirely disappeared. (Two days ago Dr. Johnson wrote that there was one point in the mouth that looked slightly suspicious, and he decided to resume treatment for a short time. This same thing occurred once before, and quickly disappeared when the injections were begun.)

Since the reading of the paper another successful case has been reported to me by letter, and its great importance warrants inserting it here. The case was a patient of Dr. Judson C. Smith, of New York, Director of the Laboratory of the Post-Graduate Medical School and Hospital, and was treated by him personally. He writes: "You may refer to my case of sarcoma treated with the toxins as follows:

"Mrs. W——, aged twenty-eight, good family and personal history. Tumor of right side of neck about the size of an orange; had been growing one year. September 1st, when she came under my care, she was extremely emaciated, anæmic, and scarcely able to leave her bed. The tumor was beginning to break down, and the patient was septic, having a temperature of 103° F. She also had dropsy of lower limbs.

"On September 11, 1894, I made an incision under ether and scraped out a large mass of the tumor, but owing to the patient's poor condition no attempt was made to remove the whole mass, which was deeply seated, extending beneath the clavicle. The wound was packed with gauze, and four days later I began the injection of erysipelas and prodigiosus toxins. These were continued eight weeks. She has no sign of tumor now, has gained twenty-five pounds in weight,

[1] MEDICAL RECORD, November 17, 1894.

and appears perfectly well. Microscopic examination proves the growth to be small round-celled sarcoma."

These results in the hands of independent observers are sufficient, I think, to confirm my own conclusions as to the value of the toxins in sarcoma.[1]

As to the question whether or not the toxins should be tried in all cases of inoperable sarcoma, there are many things to be considered. In the hands of men of experience, and very carefully administered, I believe the treatment to be attended with but little if any risk. My results show what may be accomplished in apparently the most hopeless cases; hence the importance, if possible, of giving such cases the benefit of a trial. If improvement is likely to occur, my experience has been that some evidence will present itself within two weeks after beginning the injections. It must be remembered that we have to deal with a very powerful, and as yet not thoroughly understood, agent, and it should be used with the greatest caution. Individuals vary greatly in their susceptibility to its action, and the minimum dose should be used at first. I have myself never had a death from it, though in one case I think the end was probably hastened. This was an enormous sarcoma of the scapula, involving clavicle, chest-wall, and a large portion of the humerus. The patient was very weak and emaciated, and the treatment should never have been attempted in a case so far gone. Only a single dose and a very small one (two minims) was given, the patient gradually grew weaker, and died four days later.

I will merely refer to another field for the use of the toxins, and one that seems to me likely to be very important, viz.: After primary operation for sarcoma, before recurrence has been allowed time to take place, the reasons for using the treatment in such cases are theoretically strong. If, as we have demonstrated, the toxins are able to destroy a large recurrent tumor, there is reason to believe their action would be more certain and effective in destroying the few and invisible germs of the disease left behind after operation. Since at least seventy-five per cent. of the cases do recur after primary operation, the importance of this field is apparent.

Method of Preparation of the Toxins.—To make the toxins of erysipelas and prodigiosus, ordinary peptonized bouillon is put into small flasks, containing 50 to 100 c.c., which, after proper sterilization, are inoculated with the streptococci of erysipelas and allowed to grow for three weeks at a temperature of 30° to 35° C. The flasks are then inoculated with B. prodigiosus, and the cultures allowed to grow for another ten or twelve days at room temperature. At the end of that time, after being well shaken up, the cultures are poured into sterilized glass-stoppered one-half ounce bottles, and heated to a temperature of 50° to 60° C. for an hour; sufficient to render them perfectly sterile. After cooling, a little powdered thymol is added as a preservative, and the toxins are ready for use. The toxins when prepared in this way are very much stronger than when filtered through a Pasteur, Chamberland, or Kitasato filter, the active principles contained in the germs themselves being preserved. If, as is sometimes the case, the preparation is found to be too strong to use with safety, it can be diluted with glycerine or sterilized water.

The best method of making the bouillon is to soak a pound of chopped lean meat overnight in water. In the morning strain it through a cloth, make up to 1,000 c.c., and boil for one hour. Then filter through a cloth, add peptone and salt, neutralize and boil again for an hour. The bouillon will then pass through filter-paper perfectly clear, and be ready to put into the flasks. It is not, however, necessary to neutralize the bouillon, as the streptococci will grow even more readily in acid bouillon, and the resulting preparation is, if anything, stronger than when neutralized bouillon is used.

In order to keep up the virulence of the cultures they are put through rabbits in the following way: The hair of the ear is clipped close with a pair of scissors, and the skin washed with weak carbolic acid, and then sterilized water. A minute quantity of a bouillon culture, forty-eight hours old, is then injected subcutaneously in four or five different places in the ear. Forty-eight hours later, after again washing the ear with carbolic acid and sterilized water, a flat needle sterilized in the flame is inserted under the skin at or near a point of inoculation, and the layer of the skin cut off with a sharp sterilized scalpel. The piece of skin is then rubbed well over the surface of an agar tube with a thick platinum-wire needle. After twenty-four hours in the incubator the colonies of streptococci will show as minute white specks, and from them a pure culture can be obtained. If the agar is made with seventy-five per cent. of bouillon and twenty-five per cent. of urine the streptococci will grow more freely than if bouillon alone is used. For the above brief but clear description of that preparation of the toxins, that up to the present time has proved most efficacious, I am indebted to Mr. B. H. Buxton. The dose of this preparation varies from one to eight minims; I have had a temperature of 105° F. follow the injection of two minims. I usually begin with the minimum dose and gradually increase until the desired reaction, *e.g*, temperature 103° to 104° F. is reached.

In concluding, I wish to briefly summarize my cases thus far treated. Up to May 31, 1894, I had treated with mixed toxins twenty-five cases of inoperable sarcoma, eight of inoperable carcinoma, and three of sarcoma or carcinoma. In the cases of carcinoma I had had marked improvement in a number of cases, but no cures. The cases were all very advanced recurrent tumors. In sarcoma I stated that there were six cases in which I considered there was a reasonable hope of permanent cure. Six months have passed since then, and none of the six cases have shown any recurrence. Of two other cases which were merely mentioned among the tabulated cases as improving, one has gone on to entire disappearance of the very large tumor and promises to be a cure, and the other, a six-times-recurrent sarcoma of hand, is in perfect health at present, nearly two years since the beginning of the treatment. Since May 31, 1894, I have treated twenty-four cases of malignant tumors, all inoperable and mostly recurrent, with the mixed toxins. Of these cases thirteen were sarcoma and eleven carcinoma. In many of the cases of carcinoma the injections had an undoubted retarding influence, and in some of the cases the improvement was extraordinary, but in no case did the tumor entirely disappear. In the sarcoma cases the effect was far more marked, and although in a number of the cases the disease was so far advanced that there could be no possible hope of recovery, still the powerful controlling influence of the toxins was demonstrated, and had the patient's general condition permitted a prolonged use of the injections, the result might have been otherwise.

In three of the thirteen cases the sarcomas have entirely disappeared, and although no great length of time has elapsed, the results in my older cases make it improbable that relapse will occur. Of my total of thirty-eight cases of inoperable sarcoma, therefore, nine cases promise to be permanently successful. These can be briefly epitomized as follows:

Case I.—A twice recurrent inoperable sarcoma of the neck, with secondary growth, size of an egg, in tonsil. General condition extremely bad; given by Dr. W. T. Bull three or four months to live. Treatment with erysipelas (living cultures) began May 2, 1891. No treatment since October, 1891. Result:

[1] Since the paper went to press several additional successes in sarcoma in the hands of other surgeons have been reported to me by letter.

Tumor of neck practically disappeared. Tonsil tumor greatly decreased in size, and has still further diminished the past year. The patient regained his general health in a few months, and November 12, 1894, three and one-half years later, remains in good health.

CASE II. *A Large Recurrent Sarcoma of Back and Groin.*—Treated at first with living cultures, later with mixed toxins. No recurrence twenty months after cessation of treatment; and nearly three years since beginning. (This case I have had the pleasure of showing you this evening.)

CASE III. *Large Inoperable Sarcoma of Abdominal Wall and Pelvis.*—Treatment begun February, 1893. Result: Almost entire disappearance in two months. Patient has been in perfect health ever since, with no tendency to relapse twenty-two months later. (Exhibited at Academy of Medicine, November 15, 1894.)

CASE IV. *Large Inoperable Sarcoma of Iliac Fossa.*—Almost entire disappearance of tumor. Treatment begun June, 1893. In good health August, 1894.

CASE V. *Large Inoperable Sarcoma of the Abdominal Wall.*—(Exploratory operation by Dr. Maurice H. Richardson, of Boston. Microscopical examination by Professor Whitney, of Harvard Medical School.) Entire disappearance of tumor under two and one-half months' treatment. In perfect health, December 22, 1894, without trace of recurrence fourteen months after beginning of treatment.

CASE VI. *Recurrent Sarcoma of Leg.*—(Dr. Bull's case.) Treated at the New York Hospital; later at the New York Cancer Hospital. Entire disappearance of tumor. No recurrence December 22, 1894, nearly one year later. (Exhibited at Academy of Medicine, November 15, 1894.)

CASE VII. *Enormous Osteo-chondro Sarcoma of Ilium.*—(Dr. Shrady's case.) Treated at St. Francis and New York Cancer Hospital. Treatment begun March, 1894. Entire disappearance. No relapse December 22, 1894. (Since the reading of paper a portion of thickened tissue at site of old tumor was removed for examination, and no sarcomatous elements were present.) (Exhibited at Surgical Section of Academy, October 12, 1894.)

CASE VIII. *Sarcoma of Hand, Six Times Recurrent.*—Growing rapidly February, 1893, when treatment was begun. Held in check eighteen months. Degenerated tumor tissue removed July, 1894. Patient has since gained twenty pounds, and is in perfect health without relapse December, 1894.

CASE IX. *Sarcoma of Scapula and Chest-wall, Involving Larger Portion of Entire Left Half of Thoracic Wall.*—Entire disappearance in three and one-half months' treatment. In perfect health at present (January 13th), two months since treatment was discontinued. (Exhibited at Academy, November 15, 1894.)

With exception of the first, all of these cases were treated with the mixed toxins of erysipelas and bacillus prodigiosus, the streptococcus cultures having been obtained from a fatal case of erysipelas. That the bacillus prodigiosus plays a very important part in the action of the toxins on sarcoma, I have not only repeatedly demonstrated, by using the two singly and combined, but my conclusions have been verified by others. The prodigiosus toxins used alone have a marked effect in causing degeneration and absorption of sarcomatous tissues, but the combined action of the two toxins is greater than when either is used alone. I have also found by experiment that sarcina used with erysipelas has a similar effect.

When we consider that all of the cases reported were hopeless, not only from an operative stand-point, but from any hitherto known method of treatment, that in every case the diagnosis was established according to the most approved principles of medical science, confirmed clinically by the most eminent surgeons, and microscopically by leading pathologists, we are in a position to understand the importance of this subject.

I cannot sufficiently express my indebtedness to Dr. Alexander Lambert and Mr. B. H. Buxton for invaluable bacteriological assistance, and it is largely due to their most careful and skilful work that the preparation of the toxins has been so far perfected as to make accurate dosage possible.

NOTE.—By an unfortunate mistake the photographs illustrating the cases were omitted.

DIAGNOSIS AND TREATMENT OF STENOSIS OF THE PYLORUS.[1]

BY MAX EINHORN, M.D.,

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BEFORE beginning the proposed subject, I would like to say a few words regarding the expressions relating to this field, namely, "dilatation of the stomach," "anatomical and clinical dilatation of the stomach," "ectasia ventriculi," "insufficiency of the stomach."

As is well known, the term "clinical dilatation of the stomach" is used by most authors wherever there is stagnation of food in the stomach. The real meaning of the word "dilatation of the stomach," or "ectasia ventriculi," however, is merely a signification for the dimension of that organ. This explains the frequent misunderstandings caused by these expressions. Some speak of dilatation of the stomach as soon as the limits of this organ are found enlarged; some, however, only in those instances where there are found remnants of food in the morning in the fasting condition. Rosenbach,[2] therefore, suggested the term "motor insufficiency of the stomach" in order to designate that the transportation of food from the stomach into the small intestine is at fault. In an article which recently appeared in the *Deutsche Med. Wochenschrift*, Boas[3] was of the opinion that the expressions "dilatation of the stomach" or "ectasia ventriculi" should not be used at all. Instead, he suggested the terms "gastric insufficiency of the first and second degrees." The first degree corresponds to the atonic condition, the second to the stagnation of food. Although, like Boas, I am fully convinced of the importance of differentiating between cases of stagnation of food, and such in which the transportation of the chyme is only slightly retarded, I do not, however, believe that we ought to discard the expression "dilatation of the stomach," nor that the proposed term, "gastric insufficiency of the first and second degrees" is well selected.

"Dilatation of the stomach" is a term for the condition of the volume of the stomach, and signifies an enlargement of its dimensions. Such conditions not only do exist, but form an every-day occurrence. There is, therefore, no reason for discarding the word "dilatation of the stomach." Whether this enlargement of the dimensions of the stomach has been formed by physiological or pathological processes, and whether it creates abnormal conditions or not, will have to be investigated in every single case.

The term "insufficiency" or "mechanical (motor) insufficiency of the stomach," signifying a retardation in the transportation of the food from the stomach into the intestine, appears to me ill chosen; for the word "insufficiency," or "mechanical insufficiency of the stomach," does not clearly point out the condition of the transportation of chyme from the stomach into the intestines. Moreover, the term "mechanical insufficiency of the stomach" means that the fault for the non-transportation of food lies in the stomach, which is not the case in most instances.

When there is a stenosis of the pylorus, there can be no fault found with the stomach, its muscles accomplish their duty, sometimes even to an increased degree, but

[1] Read before the German Medical Society of New York, November 5, 1894.

[2] Rosenbach: Volkmann's Sammlung Klin. Vorträge, N. 153, 1878.

[3] Boas: Deutsche Med. Wochenschr., 1894, N. 28, p. 576.

the chyme fails to pass the narrowed outlet. This is the reason why the term "insufficiency of the stomach" does not appear to suit these conditions.

Analogous to the expression "ischuria," which signifies an abnormal collection or stagnation of urine in the bladder, without stating the reason for this condition, the word "ischochymia"[1] might be applied in order to designate an undue stagnation of chyme in the stomach. Thus, "ischochymia" will embody a complex of symptoms without stating the cause. The latter will have to be discovered and further determined in each case. As you will see later on, stenosis of the pylorus is the main factor of most of these conditions.

Surgery, as well as medicine, has made great progress during late years. The greatest achievements, however, are found where the surgeon and clinician go hand in hand in performing their task. The clinician endeavors to discover the hidden, deep-seated malady and its nature; the surgeon tries to penetrate this region and to do away with the evil by means of the knife. This co-working of surgeon and clinician has accomplished the most fruitful results in the treatment of various affections of the brain (tumors, abscesses) and in the treatment of intra-abdominal organs.

The stomach, particularly, frequently requires surgical interference, and the benign stenosis of the pylorus—a malady which had been, until fifteen years ago, absolutely mortal—is now entirely cured with the aid of the knife!

Stenosis of the pylorus—no matter whether the same be caused by a contracting cicatrix after an ulcer, or by a benign hypertrophy (new-formation of muscles and fibres to such a degree that the lumen is highly obstructed) of the pylorus—or whether the same originates from a malign tumor, must be given to the surgeon for operative interference. The clinician has the task to diagnosticate the stenosis of the pylorus with the greatest possible precision at an early stage, and to determine, if possible, the nature of the stenosis, *i.e.*, whether benign or not.

In regard to the literature of this subject I refer to the excellent paper of S. Mintz,[2] "On the Surgical Treatment of the Diseases of the Stomach," recently published in the *Zeitschrift für Klinische Medicin*. According to the carefully gathered statistics of this author, the number of operations thus far performed for cicatricial stenosis of the pylorus is as follows: 1. Pylorectomy has been performed on 31 patients, with 54.8 per cent. recovery. 2. Gastro-enterostomy performed on 54 patients, with a recovery of seventy-one per cent. 3. Pyloroplasty has been performed on 31 patients, with 77.4 per cent. recovery. 4. Loreta's operation (digital divulsion of the pylorus) performed on 23 cases, with fifty-nine per cent. recovery.

In these statistics are included three cases of gastro-enterostomy which had been reported by Mintz himself, and two cases of pyloroplasty which have been performed in this country by N. Senn,[3] and published in the MEDICAL RECORD of 1891. In this paper Senn, besides the two cases of pyloroplasty, describes thirteen cases of malign stenosis in which he had performed gastro-enterostomy, and advocates surgical interference in all cases of pyloric stenosis.

In the past four or five years I have had the opportunity to observe a considerable number of cases of stenosis of the pylorus, both of benign and malign nature. Quite a number of these cases have been operated upon by renowned surgeons of this city, and have thus offered the opportunity of verifying the diagnosis by the autopsy *in vivo*. It appeared to me worth while to report several of these cases, and thereafter to describe the diagnostic points as they could be elucidated from them. In this way, I trust, I shall be best able to draw your attention to these affections.

[1] Ischochymia (from ἰσχεῖν = detain, and χυμός = chyme).
[2] S. Mintz: Zeitschr. f. Klin. Medicin, Bd. 25, Heft 1 and 2.
[3] N. Senn: MEDICAL RECORD, 1891, November 7th and 14th.

A. The Benign Stenosis of the Pylorus.—CASE I. September 24, 1891.—K——, aged about twenty-eight, merchant, was all right until about seven years ago. At that time he got sick suddenly, with severe pains in his stomach, after drinking ice-water while in an overheated condition. Since then patient was troubled with periodical attacks of severe pains in his epigastric region. These were accompanied, at times, by vomiting. At the beginning patient felt perfectly well between the attacks for long intervals. Soon, however, the attacks grew more painful and longer, whereas the intervals of freedom were of shorter duration. Since January, 1891, patient suffered constantly and had to remain in bed. The pains appeared independent of food, and seemed rather to appease by partaking of same for a short time. There frequently was (once or twice a week) vomiting, but it never contained any blood. Sometimes, however, there was in the vomit food from the previous day. These were the anamnestic points Dr. Alfred Meyer, of this city, was kind enough to give me, when he called me in consultation to this patient.

Present condition: Chest organs intact; epigastric region sensitive to pressure, but not especially painful. There was no splashing sound at the time of examination, and in this way the size of the stomach could not be made out.

The examination of the stomach-contents one hour after Ewald's test-breakfast showed: HCl +; acidity = 160; no lactic acid. The quantity obtained measured about 150 c.c. and did not contain any food from the day previous. At that time the diagnosis fluctuated between some functional nervous affection of the stomach, causing high hyperacidity—and at times continuous sucorrhœa—and stenosis of the pylorus. I advised the use of large doses of alkalies and the application of intra-gastric galvanization. This treatment was carried out for some time with apparently good result. Soon, however, the old pains reappeared, and were accompanied by severe spells of vomiting. In the vomited matter there were once found some grapes, of which the patient had partaken three or four days previously. At the second consultation with Dr. Alfred Meyer we made the diagnosis with great probability of stenosis of the pylorus, caused by cicatricial tissue after an ulcer, and advised an operation.

The patient was subsequently operated upon by Dr. F. Lange; a small, egg-shaped tumor of the pylorus was found stricturing the canal in a high degree. Heinecke-Mikulicz's pyloroplasty had been resorted to. Patient recovered and has remained perfectly well since.

CASE II. January 1, 1893.—Miss Margaretta L——, aged thirty-eight, nurse, began to be troubled with pains in her stomach fourteen years ago. There was lack of appetite; after meals nausea and, sometimes, vomiting. About ten years ago patient came to this country, where her condition grew worse; there were more pains and the vomiting appeared more frequently. About five or six years ago patient noticed in her vomit foodstuffs of which she had partaken two to three days previously. Five years ago patient was under treatment for five months in the German Hospital; first regular rest-cure for ulcer, then lavage. Patient had then gained thirty pounds. Soon, however, her condition grew worse again, and in the summer of 1892 patient had to return to the German Hospital. She then passed large quantities of dark-colored blood with her stools. Patient remained in the Hospital for three weeks and was again subjected to a regular rest-cure for ulcer. Patient then left for the country and rallied in some respects. She suffered, however, with pains and vomiting from time to time.

When patient came to see me on December 31, 1892, her complaints were principally the almost constantly persisting pains and the frequent appearance of vomiting spells. For quite a while patient had made

use of lavage of the stomach. This procedure, although it gave temporary relief lasting a short while, did not, however, change her condition for the better. Bowels were always constipated.

Present Condition.—Patient, of frail structure, has a very thin layer of panniculus adiposus. The mucous membranes are quite pale. Tongue only slightly coated. Chest organs intact. The stomach extends almost to the symphysis; this can be easily demonstrated by means of the easily produced splashing sound and by gastro-diaphany. The small curvature lies about two finger-widths above the navel. The epigastric region is not painful to pressure. No tumor. Right kidney movable. Liver not enlarged. The urine contains neither sugar nor albumin.

January 1, 1893.—The examination of the stomach-contents one hour after Ewald's test-breakfast shows: HCl +, acidity = 74, lactic acid not present. The contents obtained have a reddish color and reveal food from the previous day. Red blood-corpuscles cannot be discovered microscopically; Teichmann's test for hæmin gives, however, a positive result.

For a week the patient uses lavage in the evening and is directly gastro-galvanized every morning in the fasting condition. Under this *régime* the pains subsided considerably; the examination of January 9th, however, showed that the stomach was not empty in the fasting condition, and contained food from the previous day. The quantity of the stomach-contents was not large (about 150 c.c.) and showed the following characteristics: HCl +, no pieces of meat visible, but amylaceous substances can be easily recognized, especially rice which had been taken on the foregoing day.

January 11 and 13, 1893.—The stomach is examined in the fasting condition and the same result obtained as on the 9th. On these two days the stomach has been transilluminated and its exact position ascertained. The stomach extended to the symphysis and the transilluminated zone extended from there to about two finger-widths above the navel.

The diagnosis of a benign stenosis of the pylorus was made, probably as the result of a cicatricial thickening after an ulcer, and the patient sent to Dr. F. Lange for an operation.

Dr. Lange operated on the patient on January 23, 1893. The stenosis was found directly behind the pylorus at the beginning of the duodenum. Heinecke-Mikulicz's pyloroplasty was performed and the patient recovered after a short period of confinement. Since then she has remained free from pains.

March 13th.—I again examined the patient one hour after Ewald's test-breakfast. There were *no* food remnants from the previous day; HCl +, acidity = 78.

March 20th.—Patient was examined in the fasting condition. The stomach was found empty; the gastro-diaphany, however, showed that the boundaries of the stomach had not changed.

October 29th.—Patient was examined one hour after Ewald's test-breakfast: HCl +, acidity = 40; no food remnants from the previous day. Patient feels well, is not troubled with pains, and has not vomited since the operation. She has gained in weight and is able to attend to her regular vocation.

CASE III.—Louis L——, forty years of age, lawyer, began to be troubled with his stomach in the summer, 1891. The patient was attacked with pains after meals; these pains lasted for ten days and disappeared suddenly. There was no vomiting. For six months patient felt well, not having any pains whatever; he noticed, however, that he used to get tired quicker than heretofore. In the winter of 1892 (February) patient had anew an attack of pains lasting more than a month. During this attack patient vomited twice. Patient felt well until July, whereupon he had a fresh attack of pains extending over two to three weeks, with four vomiting spells. On account of the severe pains patient could not lie quietly, but had to walk frequently to and fro in his room. In December, 1892, patient had another attack lasting until February, 1893. Patient then had to vomit frequently (nearly every other day). Patient had never vomited any blood. Since the beginning of the sickness the bowels were constipated.

On January 27, 1893, Dr. Charles Simmons called me in for a consultation and entrusted me with the treatment of the patient (for which courtesy I am greatly indebted to him).

When I first saw the patient he presented the picture of a very sick man in agonies of pain. Patient looked pale and emaciated; he asserted that he had lost about forty pounds in weight since the beginning of his ailment, and complained of a feeling of constriction in his abdomen and of shortness in breathing; he further complained of vomiting large quantities of fluid and of obstinate constipation. During the last fourteen days patient had taken large doses of opium; he was, however, very rarely entirely free from pains.

The examination showed: Chest organs do not reveal anything abnormal. Tongue slightly coated; pulse, 90; temperature, 98° F. The whole abdomen is more or less bloated and quite tense. In the gastric region no splashing sound can be produced. No tumor can be felt. The fluid which the patient vomited a few hours ago showed many blackish flakes swimming in it, contained a great quantity of free HCl, gave no reaction for lactic acid, and had an acidity = 90.

Patient was instructed to have a small meal (well-scraped meat, oysters, milk, crackers) every two hours. The quantity of liquids was reduced (patient was allowed to take only 150 c.c. at the time). Besides, oil clysmata were administered. Under this treatment patient felt somewhat better, although his ailment, on the whole, did not change. On January 29th patient was instructed not to take any food after his eight-o'clock evening meal until the next morning. On January 30th, at 8 A.M., when fasting, the tube was inserted into the stomach and two quarts of liquid withdrawn. The stomach was then washed with lukewarm water. Patient felt exceedingly well after this lavage.

The withdrawn gastric liquid was analyzed; in this sample, too, there were the blackish flakes mentioned above. The examination showed: HCl+, acidity = 88, lactic acid not present; peptone +, propeptone +, rennet and pepsin +, erythrodextrin +.

Microscopically: No particles of meat can be found; amylaceous grains are present in considerable quantity, yeast-cells, and bacteria. Teichmann's test for blood shows the absence of hæmin.

Thus the withdrawn liquid consisted principally of gastric juice and of remnants of food taken the previous day.

February 1, 1893, at 10 P.M., the stomach of patient was thoroughly washed out; during the night patient did not partake of anything, and on February 2d, at 8 A.M., the stomach was examined with the tube and a small quantity of liquid withdrawn (150 c.c.). The examination of this gastric liquid showed: HCl+; both ferments present; acidity = 70.

One more week patient was treated with lavage. He felt better and could walk out-doors. The pains, however, persisted, although they were less severe, and the stomach was never empty in the morning, and contained more or less large quantities of liquid with food remnants.

February 11th, 13th, and 15th.—Intra-gastric galvanization was applied without, however, materially improving patient's condition. The diagnosis of benign stenosis of the pylorus was made and an operation warmly recommended.

Dr. F. Lange undertook the operation on February 22d. The pylorus was found constricted in a high degree. Heinecke-Mikulicz's pyloroplasty was performed, and after a month's confinement patient left he clinic. Although patient was now able to partake

of a more varied and coarse diet without vomiting, he notwithstanding constantly complained of pains and had to resort to opium.

On March 30th, the stomach of patient was examined one hour after the test-breakfast: HCl+; no lactic acid; acidity = 120, no remnants of food from the previous day. It was supposed that this high degree of acidity might be the cause of the pains. The patient was, therefore, instructed to take half a teaspoonful of bicarbonate of soda three times a day, two hours after meals. This worked like a charm; the pains entirely disappeared and patient began to gain fast in flesh. After six months medication with the soda the patient discontinued its use and felt perfectly well without it. Patient attends to his business and has gained seventy pounds since the operation.

CASE IV.—Mrs. P. L——, forty-three years of age, mother of three children. Her mother died of cancer. Patient is suffering for six years. The ailment began with diarrhœal trouble lasting for two years. (Patient is not able to state whether the stools were of dark color.) Since four years cramps in the stomach. The pains are extremely severe; there is relief after belching or flatus. Never had any jaundice. For the last two years intense burning in the stomach with frequent vomiting spells. Never vomited any blood. During the night the pains are extremely severe and disturb sleep. Patient during last months lost considerably in weight (about thirty pounds). With this anamnestic record the patient was sent to me, through the kindness of Dr. Willy Meyer, for examination and diagnosis.

Present Condition. February 11, 1894.—Chest organs intact. The palpation of the abdomen reveals a small cylindrical tumor of the size of an egg, situated to the right of the navel. This tumor is easily movable in all directions and has an even surface. A splashing sound can be produced in the gastric region to one to two fingers' width below the navel. The gastric region is not painful to pressure. The liver is not enlarged.

February 12th.—After lavage the patient is examined with the gastro-diaphane; the stomach is found considerably enlarged and occupying a low position.

February 13th.—The patient is examined with the tube one hour after a cup of tea without bread (the patient being in the fasting condition with the exception of the tea). The stomach contained about 300 c.c. of a slightly greenish liquid (presence of bile), in which were only a few remnants of food (several bread particles) from the previous day. The analysis showed: HCl+, acidity = 42; free HCl = 24; lactic acid = 0.

The patient was then treated for a week with lavage and chloral hydrate at the New York Post-Graduate Hospital; there was, however, no material improvement in the condition of the patient.

On February 20th the patient was examined one and one-half hour after Ewald's test-breakfast: HCl+, acidity = 50; no lactic acid. The obtained gastric contents amounted to 300 to 400 c.c. and contained food from previous days; for instance, rice, which had been taken on the previous night, and several grape-skins, which had been taken three days before. This time no bile could be detected.

The diagnosis (of benign stenosis of the pylorus) was made and the patient operated on by Dr. Willy Meyer. After opening the abdomen the tumor, which proved to be the thickened pylorus, was resected.[1] The duodenum was then inserted into the stomach by means of Murphy's button. The patient passed an undisturbed convalescence, evacuated the button in her stools during the third week, and has since been well. She has gained twenty pounds and has had no pains whatever.

The resected, highly thickened, and stiff pylorus could not be macroscopically discerned from a cancerous organ; the microscopical examination, however, showed that it was merely an hypertrophied pylorus.[1]

Epicrisis.—In Case I. (K.), at first, the diagnosis of stenosis of the pylorus could not be made, as the ischochymia was absent. Later on ischochymia appeared (there were in the vomit food remnants from previous days), and this in combination with the failure of every rational therapeutic means, pointed with great probability to the diagnosis of benign stenosis of the pylorus. The operation confirmed this diagnosis. In the other three cases the diagnosis was immediately made with certainty. Only in one case (Mrs. P. L.) could the pylorus be palpated as a small oval tumor (of small hen's egg size); in all others the pylorus could not be felt. All four cases revealed a long period of sickness (extending from two to fifteen years), in which the appearance of pains played the greatest part. Although at first, either with or without therapeutic aid, there appeared ameliorations, these periods of euphoria, however, were again and again interrupted by fresh attacks of sickness. They constantly became more violent and of longer duration, and the pains subsided only after an artificially induced or spontaneous vomiting spell. Still later, when the ischochymia had developed to a higher degree, not even vomiting brings entire relief, and the patients are subjected to the greatest pains and sufferings. They emaciate quickly, and if there is no radical help brought at this period, go to a sure death by hunger. In all these four cases which have been operated upon a radical cure has been accomplished. All four gained considerably in weight, had no pains, no digestive troubles whatever, and could attend to their daily vocations in life. They all lived like "new-born," if I may be allowed to use this expression. In two of these patients we convinced ourselves, by means of several experiments, of the prompt forwarding of the contents from the stomach into the intestines in their new period of life. The chemical condition was not markedly changed; the gastric volume in the two patients was not appreciably smaller six months after the operation.

Besides these four cases of benign stenosis of the pylorus on which operations had been performed, I had opportunity to diagnose this condition in six other patients. I may be permitted to describe three of them.

CASE I. February 14, 1894.—N. C. S——, forty-eight years of age, merchant, suffered with digestive troubles for the last twenty years. Since March, 1893, his symptoms became more aggravated. For several weeks patient vomited every day. There were pains in the scrobiculus, radiating toward the right side; frequent eructations of gas; constipation. Patient had lost considerable in weight. By means of lavage, which patient had himself learned to use, his condition improved. The pains, however, did not disappear entirely.

Present Condition: Palpation of the abdomen shows sensitiveness at the right hypochondriac region. To the right and somewhat above the navel, one can feel a cylindrical tumor of the thickness of the thumb; the same is one and a half inch long, presents a smooth surface, and can be easily moved in all directions. A splashing sound can be produced in the gastric region, which extends to one hand's width below the navel. In shaking the patient one can hear in his immediate neighborhood a distinct succussion sound. Knee reflex present. Urine contains neither sugar nor albumin.

February 15th.—Examination with the tube one hour after Ewald's test-breakfast. The contents obtained amount to over a quart and contain, besides the roll, food from the previous day, as for instance, rice, spinach, and other substances. Chemically: HCl +, no lactic acid; acidity = 124; erythrodextrin + much; rennet +; peptone and propeptone present. Patient is instructed to have with his supper some rice besides

[1] Heinecke-Mikulicz's operation could not be done in this case: 1, on account of suspicion of cancer; 2, because the lumen was too narrow and the thickening of the walls of the pylorus too considerable.

[1] The wall of the pylorus, measured, after the specimen was preserved in alcohol for about nine months, in thickness 1½ ctm.

other food (meat, etc.). On the following morning, February 16th, patient is examined in the fasting condition. About a pint and a half of gastric contents are obtained; the same reveals a considerable amount of undigested food, namely: rice, bread particles, asparagus, etc., but no meat. The chemical examination shows: HCl +; acidity = 90; no lactic acid; erythrodextrin + much; starch +.

The salol-test of Ewald revealed the appearance of the salicyluric acid in the urine in the third hour after partaking of the substance.

February 18th.—Patient is again examined in the fasting condition, and a pint and a half of chyme obtained; the same shows the above-described chemical properties, and one finds therein microscopically yeast cells and various bacteria. After a thorough washing about 500 c.c. of water are left in the stomach and the patient examined with the gastro-diaphane. The transilluminated zone almost reached to the symphysis and extended upward to about three fingers' widths above the navel, and to the right to about a hand's width from the navel. The transilluminated red zone was interrupted at the upper right angle by a small shadowy figure of a thumb's size.

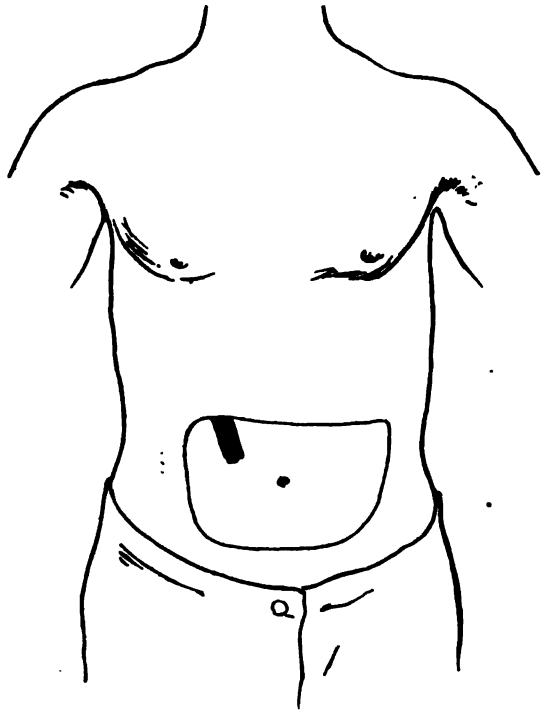

FIG. 1.—Result of Gastrodiaphany in patient N. C. S——. This shadowy figure may perhaps be the pylorus adhering to the front wall of the stomach, and around which to the back lies the expanded stomach.

February 19th.—Patient is again examined in the fasting condition and the same results obtained as on the 18th as regards the ischochymia. The diagnosis is made: Benign stenosis of the pylorus and surgical interference advised.

Patient returned to his native city, St. John, and has not been heard from since.

CASE II. May 17, 1894.—William U——, thirty-four years of age, merchant, is suffering for the last eight years from digestive troubles. They consist of frequently appearing attacks of severe pains and spells of vomiting. Appetite always good; bowels constipated. Patient had been variously treated in this country and in Europe, but without marked result. He was in Carlsbad, thereafter in a sanitarium in Switzerland, where he had been subjected to a rigorous milk diet. At Mont Clemens patient had been given a thorough rest-cure by Dr. Kniffler and nourished merely by the rectum for some time. Later on patient was treated by massage and percutaneous faradization of the stomach. All these therapeutic measures, however, could only temporarily alleviate the condition of the patient, and did not change in any way materially the run of the disease. Patient asserts that he had lost fifty pounds in the beginning of his ailment; lately his bodily weight remained the same. The amount of urine constantly averaged for the last months about three pints for twenty-four hours. Patient used lavage of the stomach for several years. Notwithstanding these washings the pains were at times so intense that patient had to take refuge in morphine.

Through the courtesy of Dr. Kniffler patient came to me for diagnosis.

Present Condition: Tall and stately man, looks quite thin. The tongue is thickly furred. Chest organs intact. The examination of the abdominal organs shows splashing sound, extending from the left margin of the ribs to about two fingers' width above the symphysis. No pain to pressure. No tumor. Liver not enlarged. Knee reflex present. Urine contains neither sugar nor albumin.

May 18th.—Patient is examined with the tube in the fasting condition, and a pint and a half of gastric fluid obtained. Food remnants—principally starchy substances—are easily recognized therein. Chemically: HCl+; no lactic acid; acidity = 70. Microscopically: Yeast cells, grains of starch in considerable quantity, no fibres of meat. Patient is instructed to eat meat, bread, and rice for his supper, not to wash out his stomach, and to take Ewald's test-breakfast on the following morning.

May 19th.—One hour after the test-breakfast two pints of gastric contents are obtained; besides bread particles one notices rice grains in considerable quantity and some spinach. The chemical analysis shows: HCl+; no lactic acid; acidity = 70, erythrodextrin+; peptone +; propeptone+. The salol test shows the appearance of salicyluric acid in the urine in the third hour after the partaking of the salol.

May 21st.—An hour after Ewald's test-breakfast patient is examined first with the gastrograph: 83 current-changes are marked within three minutes. Then the gastric contents are withdrawn by means of a tube. The quantity amounts to two pints. Besides the particles of roll one notices food remnants from the previous day. Chemically: HCl+; no lactic acid; acidity = 60; free HCl = 52.

May 22d.—When fasting, one pint and a half of gastric contents are withdrawn. With the naked eye one notices food remnants. Chemically: HCl+; acidity = 70; erythrodextrin +. The stomach is thoroughly washed out; then 500 c.c. of water are left within the stomach, and this organ examined with the gastro-diaphane. The transillumination zone begins two to three fingers' widths above the symphysis, and extends upward to a hand's width above the navel, and to the right three inches away from the navel. (See Fig. 2.)

The constant ischochymia (in the fasting condition food remnants and large quantities of gastric juice), which in this case was combined with hypersecretion, the presence of free HCl, and the long duration of the sickness, appear to leave hardly any doubt as to the diagnosis of a benign stenosis of the pylorus. An operation is warmly recommended. Patient returned home and I have not heard from him since.

CASE III. October 4, 1893.—Mrs. Maria L——, about fifty-eight years of age, is suffering for the last eighteen years with severe pains in her stomach and frequent vomiting. These digestive troubles appeared periodically and alternated, at the beginning of the sickness, with long free intervals (once nine months, then half a year). Thereafter these intervals constantly became shorter, whereas the periods of suffering grew longer. For the last year patient was constantly suffering. The appetite is not poor, but the pains increase after meals and the patient must frequently vomit. There is frequent eructation of gas that smells badly. Patient often experiences an intense burning sensation at the scrobiculus. For nine months the

pains are so severe every evening that patient has to take refuge in morphia. Although this drug exerts a somewhat soothing effect upon the patient, it does not, however, relieve her from pain. Patient, within the last two years, has lost forty pounds and feels very badly. Bowels constipated. The secretion of urine diminished. Patient noticed in the vomit food from previous days. There was never any blood found either in the vomit or in the stools.

Present condition: Frail, very thin woman, with pretty large, protruded abdomen. Tongue thickly coated and smells badly. Lips are pale. The skin can be lifted in large folds; the panniculus adiposus has nearly disappeared. The chest organs do not present anything abnormal. The abdomen appears protruded in its lower part and gives the impression of a tumor. Palpation, however, fails to discover any tumor. Splashing sound present and can be produced way down to the symphysis, and quite a distance to the right of the navel. There is only slight pain to pressure in the scrobiculus. The right kidney is easily palpated during a deep inspiration. Knee reflex present. Urine contains neither sugar nor albumin.

The examination of the stomach by means of the tube reveals: There are in the stomach considerable quantities of badly-smelling, decomposed foodstuffs.

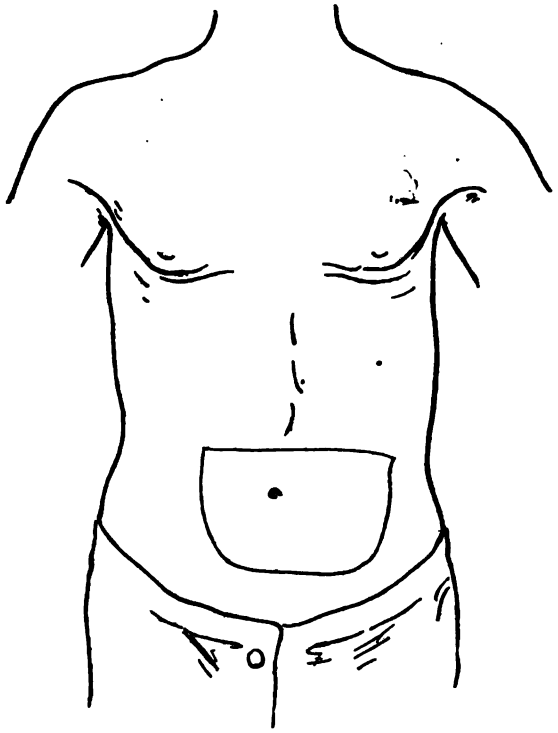

FIG. 2.—Result of Gastrodiaphany in patient William U——.

About four pints of the contents are withdrawn with great difficulty. The stomach could not be thoroughly cleansed at this first sitting; the tube again and again becomes obstructed, and the patient is too exhausted to stand the process of lavage any further.

The examination of the contents obtained showed: 1, Fetid odor; 2, absence of free HCl; 3, presence of lactic acid; acidity = 40; rennet present only in traces. Microscopically: A great number of bacteria, yeast cells, unchanged fibres of muscles, starchy grains, tyrosin crystals. Patient is advised to partake every three hours of small quantities (150 to 200 c.c.) of milk or kumyss with some crackers.

October 7th.—In the fasting condition the stomach contains over two pints of chyme, consisting of casein, particles of bread, spinach, and other foodstuffs, of which the patient had partaken four or five days ago. Chemically: HCl = 0, lactic acid +, acidity = 45, erythrodextrin + little, peptone +, rennet + traces.

This time again it was impossible to cleanse the stomach perfectly. Patient, then, for a week was treated with rectal alimentation; massage was applied to her stomach, and chloral-hydrate, 6 to 200, was given, a tablespoonful every three hours. The pains somewhat subsided, and patient felt quite some better.

October 17th.—The stomach is washed out in the fasting condition and a considerable quantity of chyme withdrawn. The same showed the following properties: Absence of free HCl; presence of lactic acid. The smell was not, however, as bad as in the beginning. Patient now, besides the nourishing enemata, received small quantities of light food by the mouth, and was given benzonaphthol. The washing of the stomach, which, thereafter, was practised only in the fasting condition, constantly showed the same result, namely, ischochymia, absence of free HCl, and presence of lactic acid. The abdomen became smaller, the pains more or less disappeared, and the patient did not lose in weight. She felt somewhat stronger, and was able to attend to some of her daily duties.

Taking into consideration the long period of sickness (eighteen years) and the absence of any tumor, the diagnosis was made of benign stenosis of the pylorus, and an operation advised. Patient, however, refused surgical interference on account of her advanced age.

The other three cases resemble cases of Louis L—— and William N—— so much, that a detailed account of them may be omitted. They all showed constant ischochymia with considerable quantities of gastric juice (hypersecretion), presence of free HCl, absence of lactic acid, a high acidity, and a long period of sickness.

Although these six cases, as far as I am aware, have not been operated upon, the diagnosis of benign stenosis of the pylorus, nevertheless, appears to me quite certain.

B. Malignant Stenosis of the Pylorus or Cancerous Stenosis.—Cancerous stenosis of the pylorus is a very frequent occurrence. The greatest number of cancers of the stomach lead to it sooner or later. Early recognized cases are the most suitable for surgical aid. Wherever possible the tumor is resected; otherwise gastro-enterostomy is performed. An operation appears to me to be always indicated—when there exists ischochymia for some time and either a tumor felt or else the diagnosis of cancer of the pylorus can be made by other deductions—unless the tumor has assumed too extensive dimensions or the patient be too weak to stand an operation. Assuredly one can in many cases give great benefit for a more or less long period of time, and the sooner the more. Of the considerable number of cases of cancerous stenosis of the pylorus which I have seen during past five years, eight have been operated upon. Only in one the resection of the pylorus has been practised; in all others gastro-enterostomy has been performed by well-known surgeons of this city. One patient died during the first week after the operation. The remaining seven lived from two months to a year.

All these operated cases of cancerous stenosis had a more or less short period of illness (five months to one and a half year at the utmost) and showed considerable ischochymia. In all of them, with the exception of one, a tumor belonging to the stomach could be palpated. In two of the cases the position of the tumor could be accurately determined with the gastro-diaphane. From the result of the transillumination, it was concluded that the tumor in both cases lay principally in the small curvature of the stomach. Both cases had been operated on by Dr. F. Kammerer, at the German Hospital, and the diagnosis as to the position of tumor found correct. I may be permitted to append the drawings of these two cases as viewed with the aid of the gastro-diaphane (Figs. 3 and 4). All, with the exception of one, showed the absence of free HCl. The lactic acid test was present in six of the cases.

Of these cases I may be allowed to describe two, which presented some peculiarities deviating from the normal type of this disease. One of them resembled the cases of benign stenosis as regards the chemical condition of the stomach-contents; the second presented all the usual symptoms of a malignant stenosis; the presence of a tumor, however, could not be discovered.

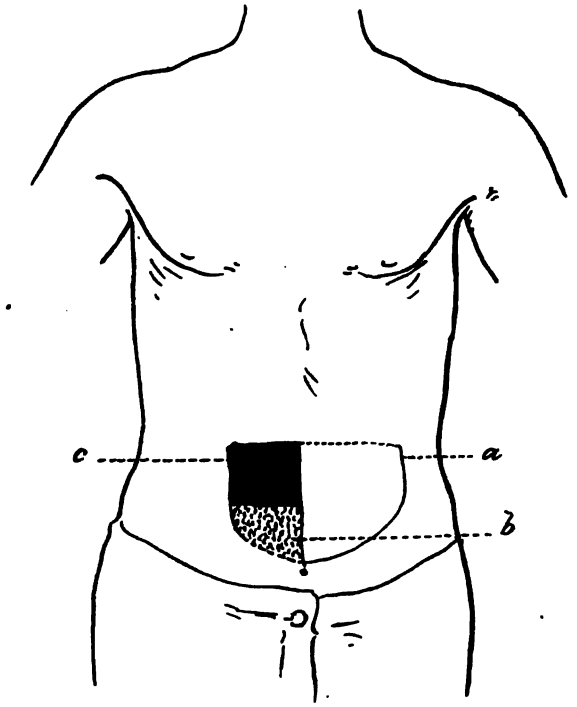

FIG. 3.—Result of Gastrodiaphany in patient K. N——, with Tumor in the Gastric Region. *a*, The transilluminated zone; *b*, the dotted spot slightly translucent on pressure; *c*, the black colored spot remains dark even on pressure.

Case I. March 9, 1894.—Oscar F——, thirty-two years of age, silk manufacturer, always robust and healthy, is suffering for the past six to seven months from digestive troubles which have been constantly increasing. They consist principally of pains, and for the last four months also of frequent spells of vomiting.

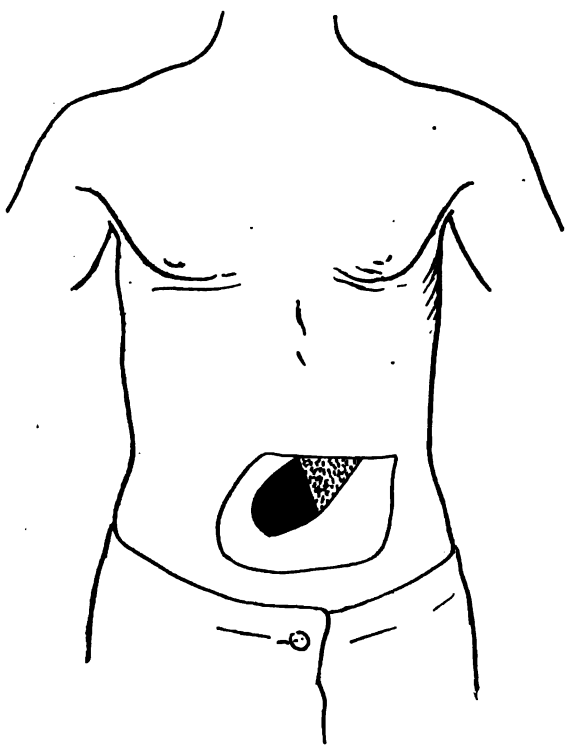

FIG. 4.—Result of Gastrodiaphany in patient M. R——, with Tumor in the Gastric Region. *a*, The transilluminated zone; *b*, the dotted spot slightly translucent on pressure; *c*, the black-colored spot remains dark even on pressure.

Patient lost forty pounds in weight. Bowels not materially impaired. Poor appetite. Patient has never vomited any blood.

Present Condition: Patient looks thin and cachectic. Lips and cheeks are extremely pale. Chest organs intact. The palpation of the abdomen shows painfulness to pressure in the gastric region and an egg-sized tumor somewhat to the right and above the navel. This tumor is not especially painful to pressure, presents a smooth surface, and is easily movable. A splashing sound can be produced in the gastric region extending to two fingers' width above the symphysis.

March 9th.—At 6 o'clock P.M. Patient had taken a glassful of milk at 10 A.M. and did not have anything since. It was therefore eight hours after his last meal. Examination by means of the tube reveals the presence of two pints of chyme. The same shows a brownish color, contains small particles of casein, and various other foodstuffs. Chemically, HCl +; no lactic acid: acidity = 118; free HCl = 94.

Patient is instructed to take with his supper rice, milk, and crackers.

March 10th.—When fasting two pints of chyme are withdrawn from the stomach. The same presents a brownish color and contains food from previous days: rice, particles of bread, and casein. Microscopically: yeast cells, granules of starch, sarcina, bacteria, brown pigment.

Chemically: HCl +; no lactic acid; acidity = 112; peptone +; propeptone +; rennet +; erythrodextrin + little; achrodextrin + much.

March 12th.—The stomach is examined in the fasting condition and the same result obtained as on the 10th.

The high degree of ischochymia and the presence of a tumor in the pyloric region, pointed with certainty to a stenosis of the pylorus. It was questionable, however, whether the process was a benign or a malignant one. Whereas the chemical condition of the gastric contents pointed toward a benign stenosis, the large size of the tumor and the relatively short period of sickness (six to seven months) answered more to the history of a malignant growth.

After a consultation with Dr. F. Lange, we both were of the opinion that we had to deal here with a cancerous stenosis of the pylorus. This high degree of ischochymia appeared to necessitate surgical interference, which should consist in either resection of the pylorus or in gastro-enterostomy.

Patient was operated on by Dr. F. Lange, on March 16, 1894; the tumor was found (macroscopically) to be a cancer, and could not be resected on account of the numerous adhesions (principally with the colon). Gastro-enterostomy was established, and in about a month's time patient was able to leave the clinic and partake of a great variety of food. Soon, however, regurgitation, of bile into the stomach appeared, and a short while afterward "peristaltic restlessness"[1] of this organ also developed. Both conditions made patient feel very uneasy.

April 19th.—Patient was examined one hour after Ewald's test-breakfast. There was a considerable amount of bile in the gastric contents, which did not contain any food from the previous day. Chemically: HCl = 0; no lactic acid; acidity = 22.

Case II. August 2, 1894.—Albert D——, forty years of age, gardener, always robust and well, had a slight attack of indigestion in 1891, lasting only a short while. Later in 1892, patient had to work very hard and did not feel so well at times. He, however, attended regularly to his business. October, 1893, patient began to suffer from pains in his gastric region and from occasional vomiting spells. Patient could not eat any meat, as it revolted against him. Appetite ex-

[1] Remark. The peristaltic restlessness of the stomach in this case corresponded minutely to the picture given by Kussmaul in his celebrated paper on this affection.

tremely poor. Bowels constipated. Patient constantly became more emaciated, and lost thirty pounds in weight. During the last two months patient vomited almost every day.

Present Condition: Patient, of heavy build, looks emaciated. Tongue thickly furred. Chest organs do not reveal anything abnormal. Palpation of the abdomen reveals a round oblong body three inches in length, running horizontally about two fingers' width above the navel, which is thought to be the colon transversum. The epigastric region is tender to pressure but not painful. A tumor can nowhere be felt. There is a splashing sound in the gastric region extending to a hand's width below the navel. The urine contains neither sugar nor albumin, nor the coloring matters of bile. The examination of the stomach by means of a tube reveals the presence of old decomposed food.

August 3d.—One hour after Ewald's test-breakfast. The withdrawn gastric contents amount to 750 c.c., containing old foodstuffs (pieces of casein, particles of meat, bread, rice, etc.), and smelling very badly (fetid).

Chemically: HCl = 0; lactic acid + much; acidity = 40; rennet present only in traces.

Microscopically: Numerous bacteria and cocci, meat fibres, starchy granules.

August 5th.—When fasting, the stomach contains about 500 c.c. of chyme (therein considerable quantities of casein, rice, bread, and meat particles, spinach). Chemically, HCl = 0; lactic acid + much. Patient was treated with lavage regularly every other day in the fasting condition. There was always found ischochymia (food from previous days) with characteristic reaction for lactic acid, whereas free hydrochloric acid was constantly absent.

August 8th.—The stomach after a thorough lavage was transilluminated. The transilluminated zone began horizontally with the navel, extended downward to two fingers' width above the symphysis, and ran toward the right to a line lying slightly to the left of the navel (see Fig. 5).

Although no tumor could be discovered, the diagnosis of stenosis pylorie carcinomate was made for the following reasons: Short duration of illness, considerable ischochymia, the constant absence of free HCl, and the steady presence of lactic acid. Patient was sent to Dr. Willy Meyer for surgical interference.

August 23d.—Patient was operated upon by Dr. W. Meyer; when the abdominal cavity was opened, one saw the right lobe of the liver extending far downward and covering up the right side of the stomach. When the liver was lifted one noticed that the pylorus was replaced by a large cancerous tumor which was connected with the liver by numerous adhesions. The mesentery glands were infiltrated. The resection of the pylorus did not appear to be practicable. Gastro-enterostomy was then established by means of Murphy's button. Although patient was troubled with vomiting of large quantities of bile about a week after the operation, notwithstanding, this condition in a few days improved and the patient was then able to partake and retain larger quantities of food.

September 30th.—Patient had gained ten pounds since the operation and the examination of the stomach one hour after the test-breakfast showed that this organ was empty. Thus, there was no ischochymia; the contents had passed rather quicker than normally.

Although patient is still complaining of temporary attacks of pains, notwithstanding, his condition is undoubtedly better now than before the operation.

Conclusions.—If we now consider the points which were of value in diagnosticating a stenosis of the pylorus, the following may be given as a résumé.

a. Common Points.—Stenosis of the pylorus, benign as well as malignant, almost always presents symptoms of vomiting [1] and pains, is connected with a more or less considerable loss of weight, and objectively shows constant ischochymia. This condition is best recognized by the examination of the stomach by means of the tube when fasting. I usually instruct patient to have at his supper on the night preceding the examination, besides soup, meat, and bread, some rice, as this latter is very easily recognized and as a rule retained in the stomach when the pylorus is stenosed. For this examination the expression-method alone is not always sufficient. Wherever no chyme is withdrawn by this method, it is necessary to wash out the stomach. In these cases food is then continually found in the stomach.

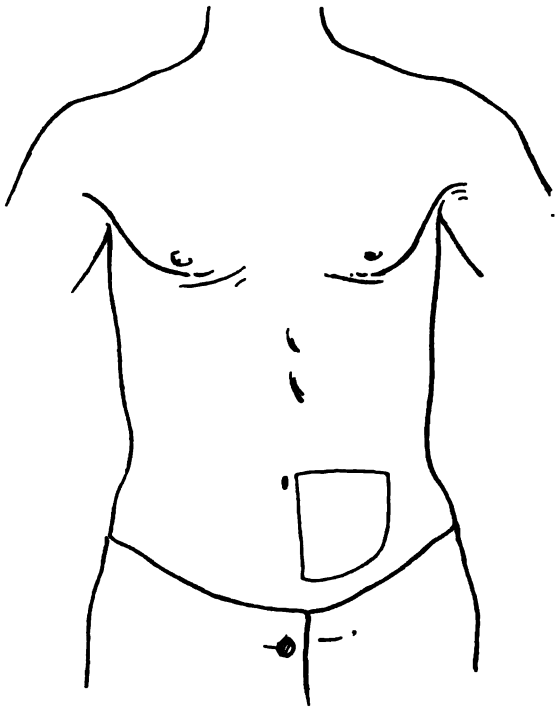

FIG. 5.—The Transillumination zone of the Stomach in patient Albert D——.

Differential Diagnostic Points:

	Benign Stenosis of Pylorus.	Malignant Stenosis of Pylorus.
Duration of illness.	Long duration of illness (2 to 15 years).	Short duration of illness (5 months to 1¼ year).
Run of the disease.	Long intervals without pain or periods of perfect euphoria.	No periods of perfect euphoria, but constant and gradual aggravation of the symptoms.
Tumor.	As a rule, absent.	Present in most cases.
Condition of Gastric Contents:		
Free HCl.	Present in the greatest majority of cases.	Nearly always absent.
Lactic acid.	Absent in the greatest majority of cases.	As a rule, present.
Acidity.	Always increased.	Fluctuates between 30 and 90.
Rennet.	Always present.	Varies.
Odor.	Unpleasant, disagreeable.	Very frequently fetid.

A long-lasting atony of the stomach may at times produce ischochymia; it is then, however, not constantly found and disappears soon after the regulation of diet and rational treatment. The same may be said of grave forms of chronic gastric catarrh. There also ischochymia is liable to develop under favorable conditions. The symptom, however, disappears after a few washings of the stomach. In this way I believe that these two conditions (atony of the stomach and

[1] Remark.—Vomiting may sometimes be absent, notwithstanding that ischochymia has already developed. I, at present, have under observation a patient with carcinoma pylori (with clearly palpable tumor), who has been ailing for the last six months. Patient had never vomited nor did he have much pain. His complaints merely refer to loss of appetite and obstinate constipation. The examination of the stomach in the fasting condition always reveals presence of chyme (coarse foodstuffs are principally found). Although patient, living on a more regulated diet, has gained six pounds within the last month, nevertheless the ischochymia remained unchanged.

chronic gastric catarrh) can be without difficulty discerned from a stenosis of the pylorus, and would give no cause whatever for mistakes.

As is clearly seen from the aforegoing, we are now enabled to diagnosticate a stenosis of the pylorus as soon as it causes ischochymia. Have we, therewith, reached the climax of the diagnostic art? I would like to answer this question with an emphatic "no." In many cases of benign stenosis of the pylorus there appear, at first, attacks of pain, unaccompanied by vomiting, which sometimes persist for years; probably, as yet, at that time no ischochymia exist—and still the disease is already much progressed. After the failure of many therapeutic means the patients find their last resort in morphine.

Among the morphinists there is undoubtedly a considerable number of patients with benign stenosis of the pylorus. If operated on, they would be also cured of their morphine disease. We should endeavor to look for methods which would enable us to recognize the malady already at this early stage.

An early diagnosis of malignant stenosis of the pylorus—before ischochymia has as yet developed or a palpable tumor appeared—would greatly increase the chances of an eventful radical operation and perfect recovery. Boas[1] has tried for this purpose to utilize the early appearance of lactic acid in cancer of the stomach. There are, however, on the one hand cases in which the constant appearance of lactic acid is observed and still no cancer exists (case Maria L——), on the other hand cases of cancer are met with without lactic acid (case Oscar F——). Notwithstanding, the lactic-acid test is certainly of great value.

As is evident from this paper the rational treatment of stenosis of the pylorus consists in establishing a wider outlet between the stomach and intestine. What shall we do in those cases where either surgical interference does not appear advisable, or patients refuse an operation? In these instances we shall apply the newer methods of treatment of the stomach. We shall advise small and frequent meals. In the benign stenosis the greater part of nourishment will consist of albuminates, whereas in cancer starchy food plays an important rôle. In both instances milk, kumyss, or matzoon, given in small quantities, are very suitable. In both instances lavage, applied in the fasting condition, appears to be very useful. After the lavage the spraying of the stomach with one to three per mille solution of nitrate of silver may be advantageously administered. Rectal alimentation will greatly aid the usual nutrition for a time, and rectal injections of water, which have been first recommended by Unverricht, will be of great benefit when thirst is present and the amount of secreted urine decreased.

In benign stenosis of the pylorus, the application of massage (ten minutes twice daily) to the gastric region can be warmly recommended. Likewise, the administration of alkalies in existing hyperacidity, and the application of the galvanic current when there are severe pains, may be profitably tried.

Cancerous stenosis of the pylorus hardly admits of any treatment. Condurango given when there is anorexia, and chloral hydraté (a tablespoonful of a three per cent. solution every two to three hours) when pains, as has been recommended by Ewald, are the most reliable and efficient medicaments.

107 East Sixty-fifth Street.

A Numerous Progeny.—A man died recently near Lebanon, Pa., at ninety-two years of age. He had been the father of twenty-two children, fifteen of whom survived him. There were besides, at the time of his death, one hundred and ten grandchildren and ninety-six great-grandchildren.

[1] J. Boas: Deutsche med. Wochenschrift, 1893, No. 39.

SOME NOTEWORTHY TOXIC EFFECTS OF THE ANTITOXIN TREATMENT IN DIPHTHERIA.

By A. SEIBERT, M.D.,

NEW YORK.

Inasmuch as Behring's treatment of diphtheria by the hypodermic injection of antitoxic blood-serum will no doubt be given an extended trial in the near future, it will be of value to carefully report any disturbances in the so-treated patients that are caused by the antitoxin.

The following case, while somewhat resembling those reported by Lublinski, of Berlin, and Scholz, of Hirschberg, in the *Deutsche Medicinische Wochenschrift*, November 8 and 15, 1894, presents additional features, which to my knowledge have so far not been published.

Lizzie J——, six and a half years of age, complained of illness, November 30th. On December 1st a fresh diphtheric exudate was found to cover the visible pharynx and the nostrils. Lymph-nodes swollen, temperature, 103.5° F.; considerable prostration. In the evening of the same day 10 c.c. of antitoxin (from the Pasteur Institute of this city) were injected, and the same quantity on the following morning. Irrigation (by a 1 to 20 watery solution of the liquor sodæ chlorinatæ) of the naso-pharynx made with a fountain-syringe every two hours, by night and day, and frequent gargling with a solution of iodine and carbolic acid, together with the antitoxin, practically cured the child in three days. An infant brother of the patient, aged eleven months, who had to remain in constant contact with his sister, was immunized by the injection of two c.c. of Aronson's serum.

The bacteriological report of the Health Department announced the presence of Loeffler bacilli.

To prevent any dangerous exercise, the patient was kept on her back in bed even after the disappearance of the exudate.

December 10th.—Nine days after injecting the antitoxin, and five days after apparent complete recovery, a rash appeared in the face and upon the extremities of the child, that in some places (face and neck) resembled measles and in others scarlatina. The skin was but slightly infiltrated, nowhere resembling urticaria. The color of the afflicted surfaces was dark red, showing a glossy, shiny appearance. The temperature had risen to 99.5° F., considerable itching, no pains. Appetite, normal. Normal urine. No treatment.

December 11th.—Erythema is disappearing.

December 12th.—Eruption has disappeared in the morning. Later in the day nausea, chill, headache, general malaise. Pains back of the head. On arrival I find patient with head drawn back, in high fever (104.9° F.); pulse, 140. Not somnolent. Posteriorly to the sterno-cleido-mastoid muscles large numbers of hard, swollen lymph-nodules are felt between the deeper cervical muscles. No succulent infiltration of the tissue surrounding the lymph-nodes. Each one can be distinctly felt. The posterior half of the neck appears swollen. Great tenderness, explaining opisthotonos position of head. Throat is positively clean. Tonsils small. No redness. Trace of albumin in urine. No casts. Treatment: Antipyrin, four grains in watery solution, given six times in twenty-four hours per rectum. Much relief at night. Erythema barely visible in faintly bluish spots on extremities.

December 13th.—Infiltration of cervical lymph-nodes subsiding. No swelling of lymph-nodes in groin, axilla, or other parts. Temperature, 101° F. No appetite. Trace of albumin. Tenderness of neck almost gone by evening.

December 14th.—During the night, 3 A.M., violent nausea and vomiting, chill, pains all over body, but especially in joints. At 9.15 A.M., I find temperature 104.8° F., pulse 140, a new eruption over the face, in-

jection of both conjunctivæ, marked œdema and redness of upper eyelids. Face, neck, and extremities covered with large and small blotches. Trunk shows but few smaller spots. Joints of wrists, knees, elbows, and ankles are tender and slightly swollen, but not reddened as in acute rheumatism. The left hip-joint is very tender. The infiltration of cervical lymph-nodes has entirely disappeared, and the head can be moved in all directions. Trace of albumin. Some few casts. Anorexia. No headache. Treatment: Six grains of salicylic soda in watery solution, given every two hours per rectum. Temperature, 103° F., 5 P.M.

December 15th.—Pains in joints much better. Temperature, 102° F.; pulse, 116. Erythema less marked. Has disappeared from conjunctivæ. Upper eyelids still swollen and red. A few isolated lymph-nodes can be felt at back of neck. No tenderness. Pains now back of the knee-joints and more marked along the muscles leading from the affected joints. Trace of albumin. Few casts. 9 P.M., temperature, 104.2° F.; pulse, 120.

December 16th.— Joints entirely free. Muscles tender. Erythema disappearing. Still marked in face. Anorexia. Temperature, 101° F., A.M. Heart normal. Very thirsty. Had a restless night. 9 P.M.: Erythema has completely disappeared. Pain only in tendons, back of both knee-joints. Temperature, 100.5° F.; pulse, 96. Some appetite. Trace of albumin.

Remarks.—That the symptoms recorded here were due to the antitoxin alone is evident for the following reasons: 1. No local disturbance appeared at the points of injection, thereby excluding the possibility of an unclean syringe. 2. The erythema appeared exactly ten days after the injection of the antitoxin, exactly the time given in two cases of Scholz (*l. c.*), and the case of Lublinski (*l. c.*). 3. Swelling and pains in joints, and tenderness of muscles and tendons (the latter back of the knee-joints), were well marked in all four cases. 4. The affection persisted in all cases for four to seven days.

Our case differs from those of Scholz and Lublinski in so far that the patients of Scholz (his own children) presented no rise of temperature; the one of Lublinski showing temperature of 101° to 103.4° F., and but one rise to 104.5° F.; while the fever in our case was but slight during the first eruption (99.5° F.), but showed marked tendency to go above 104° F. during four successive days.

In our case we saw two distinct eruptions. On the disappearance of the first a sudden infiltration of the posterior cervical lymph-nodes appeared, together with a marked chill and high fever. This phenomenon passing away, a new chill and rise of temperature initiated another eruption of the characteristic erythema, together with articular affection and muscular pains.

The difference between the four cases appears to allow an explanation, best seen by tabulation.

1. Scholz: Boy, aged ten. 600 antitoxin units. Behring. Erythema, articular and muscular pain. No fever.
2. Scholz: Girl, 600 antitoxin units. Behring. Erythema, articular and muscular pain. No fever.
3. Lublinski: Girl, aged eight. 1,200 antitoxin units. 10 c.c. Erythema, articular pain. 101° to 104.5° F.
4. Seibert: Girl, aged six and a half years. 20 c.c. Pasteur Institute. Two eruptions of erythema; lymph-node infiltration; two chills; temperature, 104.9° F.; joint and muscular affection.[1]

In the first two cases but 10 c.c. of Behring's weakest serum was injected, hence erythema, articular and muscular affection appeared without a rise of temperature.

In the third case the double quantity was used within twenty-four hours, hence these symptoms came on with fever, ranging from 101° to 104.5° F.

[1] Since the above was written, I have found two more cases, by Mendel and Asch (Berl. klin. Wochensch., November 26, and December 17, 1894), two others by Cuyrine (Deutsch. Med. Woch., November 29, 2834), and a fifth by Porteaux (New York Medical Journal, January 12, 1895), in all, nine cases.

In our case 20 c.c. (from Pasteur Institute) were injected within twelve hours, hence the two eruptions, the lymph-node infiltration, the joint and muscular affection, and the high temperature. The first two cases recovered in four, the third in five, and the last in seven days.

Although we are not informed as to the relative strength of the antitoxin from the Pasteur Institute, it appears as though the 20 c.c. injected were much more powerful in their after-effects than the weakest serum of Behring (No. 1).

The albuminuria seen in our case I am inclined to attribute to renal stasis.

In the small number (fourteen) of other cases of diphtheria I have treated with antitoxin, no after-effects appeared. The wonderful similarity as to the time of their appearance as well as to their location, shows that these after-effects are due to the antitoxin itself, and not to any difference in its production.

137 EAST NINETEENTH STREET.

EPICEREBRAL HEMORRHAGES IN PARESIS, WITH ILLUSTRATIONS.

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WITHIN the past few years the post-mortem appearances of the brain in general paresis have been carefully observed, described, and recorded. Nevertheless, it seems to me that many of the descriptions of these hemorrhages found on the brain cortex and in the membranes, however clearly described, cannot but fail to give an inferior mental picture to that of photographs taken at time of autopsy. Therefore two photos are given showing these post-mortem appearances in a typical case of general paresis. Attention is called especially to these hemorrhages which were found on the surface of the brain and beneath the pia, or so-called epicerebral hemorrhage. These should not be confounded with the subdural hemorrhage or arachnoid cysts so often found in general paresis; as these were also present in the brain and came away with the dura. The larger and more pronounced subdural hemorrhages were not in apposition with these in the epicerebral space. For obvious reasons these were not incorporated in these photos.

The pial membrane was carefully cleaned over these spots before the pictures were taken, in order that none of the sero-sanguineous exudate in the meshes of the arachnoid should appear in the photo. The pia and underlying cortical gray substance were examined to determine the origin of these hemorrhages. The membrane was so adherent over the brain that it was impossible to remove it without destroying a large quantity of the gray matter. Over the immediate areas of hemorrhage the pia was less tenacious and adherent, which was probably explainable on the ground that the steady pressure of the hemorrhage had elevated the pia and caused a degeneration of the branching connective-tissue cells commonly found extending, spider-like, from the first layers of the brain to the overlying pial covering.

Under the microscope the vessels of the pia were engorged and tortuous; the tissue either side of the blood-vessels was closely infiltrated with leucocytes, as in other parts of the brain's pia. It was thought probable that a ruptured or eroded vessel might be found from which the blood effusion escaped, but diligent search failed to disclose any.

The cortical areas after the removal of the pia still retained the rusty appearance, or "rusty spots," as Bevan Lewis has so aptly named them. The large, rusty spot on the temporo-sphenoidal lobe, displayed in Fig. 2, not only shows the area and color, but also softening and actual cortical disintegration in the sum-

mit of the gyri. Frozen sections of two or three of these areas, stained by osmic acid and aniline blue-black, presented all the degenerative characteristics of tissue taken from other parts of the cortex. A few blood-stains and crystals were found in these sections. With the same end in view as in examining the pia the blood-vessels were searched for a solution of continuity, but it proved alike unsuccessful. It seems more probable that instead of rupture of the blood-vessels of both the pia and gray matter, the arterioles had become so thin and degenerate through loss of their normal stout tunics, both by hyperæmia and secondary fatty change, that it became impossible for them to prevent free diapedesis of their contents into the perivascular space and surrounding brain tissue. The rest of the cell element of the cortex showed the degeneration of tissue commonly found in general paresis—proliferation of the lymph connective system, erosions of dendrons, etc.

FIG. 1.—Epicerebral Hemorrhages.

As to the site of these hemorrhages, they are recorded as occurring in the temporal, parietal, and occipital lobes, occasionally at the base, and but rarely in the cerebellar fossa. It will be noticed that in Fig. 1 the three hemorrhages which are most prominent are superior parietal anteriorly and posteriorly, and a well-marked spot occurring on the superior surface of the cerebellum. In Fig. 2—picture of the base—these spots were less distinct, probably on account of their being less severe and more recent than the others. The remains of these hemorrhages were particularly noticeable at the base and tip of the frontal lobes, and were also quite prominent about the olfactory lobes. Over almost the whole of these latter two named areas, even before the pia was removed, the peculiar moth-eaten appearance of the cortex was plainly visible. In the dura covering the paracentral lobule two small, bony plaques were found, apparently ossification of the Pacchionian bodies.

For those wishing to make some comparison between the symptoms and the pathological conditions presented in this case, Dr. Keniston has kindly furnished me a short abstract of the patient's history.

F. G——, forty-seven years of age; widower; a painter by trade. On admission to the hospital he presented the characteristic paretic symptoms, somatic and psychical. Tremor of tongue, lips, and facial muscles were well marked, accompanied by entertaining the delusions of great wealth and well-being. His disease was thought to have extended over a period of about three years. During the latter part of this time the patient had done many foolish acts, and committed two or three small crimes, for which he had served a few months in the county jails. He had led a very wild and dissolute life, and on arrival at the hospital presented some physical evidences that he had contracted syphilis, but this could not be verified from patient's knowledge.

Four months after admission it was impossible for the patient to walk or get about in any manner, through loss of motor power and inco-ordination. Speech had become so indistinct as to be unintelligible, and deglutition was much impaired. For the past two months he had forgotten his delusion of wealth, and retained only his happy, helpless, and demented appearance. The trophic neuroses were manifest in his case by the large number of bed-sores present in the last few months of his illness. He died September 14, 1894.

During the entire course of the disease he had no convulsive seizures, and consequently the relation of the paretic convulsions to that of the hemorrhages does not seem to be borne out in this case, *i.e.*, the larger and more extensive hemorrhages are found in those paretics who have had many convulsions.

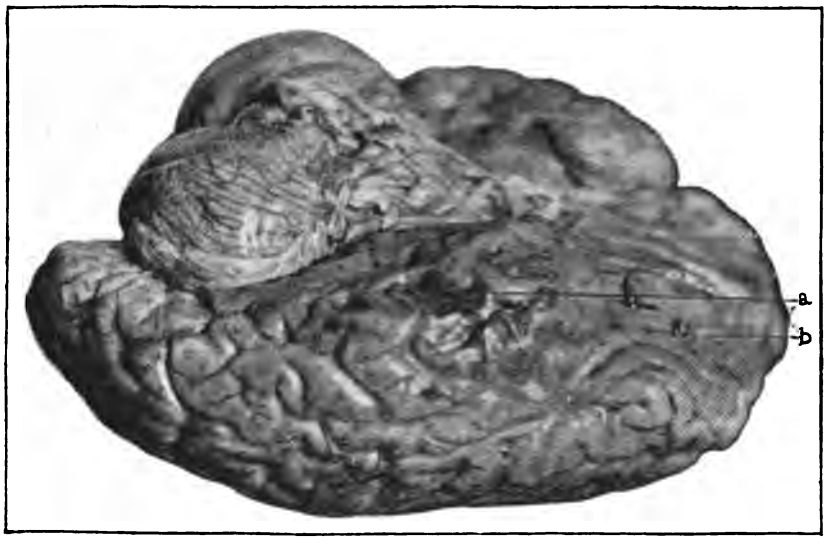

FIG. 2.—General paresis. *a*, Remains of epicerebal hemorrhage and cortical softening; *b*, area showing moth-eaten appearance of brain-cortex.

Not a Pleasant Man to Live with.—M. Octave Feuillet, from all accounts, must have been a hard man to live with. Mme. Feuillet, who ought to know, declares that he was a victim to his nerves. A strange voice, one he was unaccustomed to, in the house, made him wild. When he was ailing, mattresses had to be piled up against his doors, so as to keep out the ordinary noises. When in the country the crowing of cocks, the cackling of hens, the neighing of horses, made him frantic. For a man of poetical temperament the twitter of swallows, the chirping of sparrows, caused him agony. By steady pistol practice, says his wife, he exterminated all the owls in a country garden where he was living.

Russification of the University of Dorpat.—An official notification has been sent to the Council of the University of Dorpat (henceforth to be known as Yurieff) that from the beginning of 1895 all the professors in the University, with the exception of those of the Theological Faculty, must give their lectures in the Russian language.

Progress of Medical Science.

The Treatment of High Arterial Pressure. — The fact that high arterial tension is a condition which requires medicinal interference has become more and more recognized as we have employed the nitrites with constantly increasing frequency. Indeed, it is probable that many physicians of the present day who employ nitro-glycerine or other nitrites as cardiac stimulants, in reality get the good results obtained solely through the decrease in the arterial tension, which results in the easier action of the heart (*The Therapeutic Gazette*). In other words, the improved action of the heart after nitro-glycerine has been given is not due to the fact that it has acted as a cardiac stimulant, but rather that by decreasing the work of the heart that organ is able to perform its function more satisfactorily. A mistake is frequently made by the careless physician when called to a case in which the heart is evidently failing. Signs of cardiac exhaustion and of dilatation divert his attention from the high arterial pressure, and, as a result, he jumps to the conclusion that the failure of the heart is due to an actual lack of strength in that viscus, when in reality its failure is produced not because it is weaker than normal, but because the arterial tension is so great that even with compensatory hypertrophy it is almost impossible for it to force the blood through the contracted blood-vessels. Too frequently, under these circumstances the physician attempts, by the administration of digitalis, strophanthus, or other cardiac stimulants, to so increase the power of the heart that it will overcome the tremendous resistance to its normal action. Sometimes, under the effect of this stimulation, temporary improvement does take place, but the rational therapeutics of such a case demands that the pressure shall be taken away, and the heart not only allowed to rest, but also quieted, in some cases, by drugs which, if not direct cardiac depressants, certainly act as sedatives to this organ. It would seem that in many cases of high arterial tension the spasm of the vessels is due more to a condition of hyper-excitability of the vasomotor system than to any direct pathological change in the blood-vessel walls. For this reason the administration of nervous sedatives is often of advantage, either with or without the use of nitro-glycerine. A prescription such as follows may be employed in some of these cases with advantage, particularly as it aids in relieving the restlessness of the patient, who may rebel against being confined or deprived of exercise :

℞. Chloral ..... ʒ ij.
Bromide of sodium ..... ʒ ij.
Syrup of lactucarium ..... f ʒ j.
Water, q. s. ad ..... f ʒ iij.

M. Sig. : A teaspoonful should be taken in a little water every four hours, or not less than three times a day.

In many cases, as is well known, the use of nitro-glycerine, while indicated by the condition of arterial tension, is contra-indicated by reason of the headache which it produces in susceptible persons, and in such instances this prescription may also be given with advantage.

Is Biliary Lithiasis of Microbic Origin?—The Paris correspondent of the *Medical Press* writes that this question was discussed in a paper by MM. A. Gilbert and S. A. Dominici at a meeting of the Société de Biologie. Since M. Galippe in 1886 showed the presence of micro-organisms in biliary calculi the question has remained in abeyance until taken up by the authors. They have examined calculi from six cases. In two cases in which the lithiasis was of recent date they were able to demonstrate by coloration and culture the presence of organisms in the centre of the calculi. In two cases in which the lithiasis was of ancient date examination yielded only negative results. In one case in which the lithiasis was of equally ancient date, cultures yielded only negative results, but in colored sections microbic forms were discoverable. In another case, where old and recent calculi existed together, the first gave negative results, but the second, on the contrary, gave positive results both in examination of sections and by cultures. Where culture succeeded, the organisms which developed belonged to the coli-bacillary species. These results are explainable by two hypotheses. First, it may be assumed that the formation of calculi has preceded their invasion by bacteria, and this hypothesis is the more tenable from the fact that in cases where calculi contained the coli-bacillus the bile was infected with the same germ. On the other hand, it may be assumed that infection by the coli-bacillus has formed the initial stage from which the lithiasis has proceeded. The authors adopt the second of these hypotheses. They have tried to verify the theory of the microbic origin of biliary lithiasis experimentally, and with this object they injected into the gall-bladder of three dogs cultures of Eberh's bacillus and into the gall-bladder of one dog Escherich's bacillus. Of the animals inoculated with the first-named bacillus the first succumbed at the end of a month with a suppurating cholecystitis and double pneumonia. The second died in three months without lesion of the gall-bladder, and with a magnificent (*sic*) vegetating endocarditis of the mitral and tricuspid valves. The third was killed after three months, as also the animal inoculated with the coli-bacillus, but nothing was discovered after death. The experiments under different conditions are to be pursued by the authors.

Persistent Recurrences of Influenza.—Dr. Thibaudet remarks that immunity from influenza, supposing that it exists at all, is of short duration. From a symptomatic point of view nothing occurs in the interval between the different attacks. The apyretic patient recovers in the usual way, more or less exhausted and asthenic, according to the mode of reaction peculiar to each person, and, above all, according to the presence or absence of anterior morbid conditions. Suddenly the disease returns; fever reappears, and at the same time the characteristic pains in the head and limbs, coryza, coughing, laryngo-tracheo-bronchitis in the thoracic form, vomiting and diarrhœa in the gastro-intestinal form, and prostration and extreme lassitude in all forms appear. Generally the symptoms which predominated the first time appear again, but this is not always the case. Aside from complications, the duration of these new attacks is not longer or shorter than that of the first attack. Those which occur from six months to two years or more after the first seizure are not doubtful, and all physicians who practise in regions where influenza is endemic have observed many examples. It appears, then, that, far from conferring immunity, the first attack of influenza often predisposes the patient to a return of the disease.

Many physicians think that the disease is due to the swarms of common microbes living in the organism, especially on the skin and in the mouth, and that under certain influences, especially meteorological, the virulence of these germs increases enormously, the danger of contagion becomes greater, and an epidemic is the result. After a careful study of this question, and after experience with this disease, Dr. Thibaudet thinks the following conclusions may be drawn: 1. That during a period of from twenty days to four months influenza may attack the same organism from two to four times, with more or less prolonged intervals of complete apyrexia. 2. That these repeated attacks should be attributed to a series of autochthonous reinfections in a soil especially favorable to them. The greater virulence of the pathogenic germ is commensurate with the greater contagiousness.—*New York Medical Journal.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

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THE CAUSATION OF CANCER.

THERE is a growing belief, or rather impression, in the mind of the profession that cancer may be found to belong to the group of infectious diseases; that its growth depends upon the presence of an animal microparasite, and reports are constantly being published of experiments made with a view to settle this point. So far, however, nothing definite has been accomplished. Dr. D'Arcy Power has recently completed a very elaborate experiment, which we find described in a reprint from the *British Medical Journal* of September 22, 1894. The animals experimented upon were very old or very young white rats, which may be assumed to be more vulnerable than adult animals which run wild. These animals were kept in low wire cages resting on soil taken from those districts in England in which cancer most prevails. This soil was thoroughly mixed with fresh cancer tissue, and kept moist with water in which cancer tissue had been ground and pulped. The rats were from time to time sprayed with a thin cancer pulp, and their mucous membranes were kept in a state of chronic irritation so that the protozoon, if any existed, might find a suitable medium for its reception and a favorable soil for its growth. The rats, six in all, lived in this way for about eleven months. Two died, one from cold, the other from intestinal perforation by a tape-worm, and four were killed. A careful examination was made in each case, but in none could a trace of cancer be found anywhere either by the naked eye or under the microscope.

At the Congress of the French Surgical Association, held at Lyons last autumn, the "Etiology and Pathogenesis of Cancer" was one of the set subjects for discussion. Four of the members took part in the debate, one of whom, M. Guelliot, upheld the parasitic theory, bringing, however, no facts of any importance to the support of his thesis. M. Bard, of Lyons, believed that there is but one mode of origin of all malignant tumors, whatever may be their structure. For each tissue there is a special form of cancer, the origin of which is a single too vigorous young cell, whose power of proliferation is exaggerated and unlimited. This cell is large, juicy, and provided with a large nucleus. There is nothing about it in the nature of a degeneration, the latter being a disease of the tumor and not a state proper to it. The cancer-cell preserves its own evolutionary type, even in secondary tumors, the grouping of the cells in the metastatic growth being in plaques, if the original cell is pure pavement epithelium, or in tubes, if the primal cell is from cylindrical epithelium. According to M. Bard, therefore, cancer is the result of a freak. A cell endowed with unusual proliferative powers is produced, and being freed from the "inductive influence" which the organism as a whole exerts upon each individual cell, it exercises these powers freely and transmits them to its numerous descendants. This disturbance of inductive influence is hereditary, but is favored by external causes, such as ulceration, traumatism, or age. The theory is pleasing enough, but M. Bard brings forward no facts in support of it.

In the meanwhile, in spite of the negative results of most experiments, and the doubtful results of a few others, and in spite of arguments against it, the feeling that cancer must be a specific disease, arising from the presence of a protozoon, seems to be gradually spreading. The search for the protozoon will doubtless continue, but he would indeed be rash who would prophesy as to its outcome.

THE THREATENED REVIVAL OF THE WHIPPING-POST.

AT the meeting of the Public Health Section of the Academy of Medicine last week the subject for discussion was the whipping-post. There was not the popular interest manifested that had been anticipated, only a small audience being present. Nevertheless the discussion *pro* and *con* was animated. It was held on the one hand that whipping offenders convicted of crimes against the person would be highly efficacious as a deterrent of similar crimes; and on the other, that, since crimes of this character are usually committed under the influence of passion or during periods of mental irresponsibility—alcoholic or otherwise—the fear of punishment could exert but little deterrent influence. The thought was also advanced that to apply corporal punishment only in the class of cases suggested (*i.e.*, where the crime involved the infliction of pain by the criminal), savored very closely of the old punitive methods, and little of the modern reformative idea.

The discussion centred about a proposed bill, which Mr. Gerry, of the Society for Prevention of Cruelty to Children has drafted for introduction into the Legislature, providing that felonies against the person may be punished, at the discretion of the judge who pronounces sentence, by castigation in addition to imprisonment. Mr. Gerry holds that imprisonment, even for a term of years, is but little deterrent upon the class of offenders who commit these crimes. He thinks that the only thing these persons fear is pain, and that a flogging will accomplish far more than imprisonment, though the former is not to supplant it or to supplement the latter.

It can hardly be said that this argument carries conviction with it. One cannot easily conceive the mental complexion of a man who would prefer years of imprisonment to a single flogging in private (it being explicitly provided in the proposed bill that only a physician and the prison warden shall be present when the flogging is given). When we recall further that the criminals in question are notoriously anæsthetic, paying little heed to physical injuries that would be exquisitely

painful to ordinary persons, and constantly receiving such injuries in bar-room brawls and street fights, it becomes still more open to doubt whether the prospect of receiving "forty lashes at most," in private, will deter one of them who, in a moment of passion, or while intoxicated, is tempted to beat his wife or to commit rape or sodomy (these being the crimes chiefly had in mind by the advocates of the proposed measure).

It seems probable, therefore, that most physicians will be disposed to agree with those speakers at the meeting in question who counselled great caution in the matter, urging that we should make very sure indeed that the proposed measure is calculated to either reform the criminal or deter the would-be criminal, before countenancing its adoption. There is certainly an element of plausibility in the suggestion made by one of the speakers, that if we are to have the whipping-post at all, it should be used to correct minor delinquencies rather than major crimes; the idea being to endeavor to shame the misdemeanant from the course he has entered on; to avoid the necessity of sending him to that most potent nursery for crime, the county jail; and to exercise a deterrent influence upon other wayward and wavering mortals. It would certainly seem as if this use of the whipping-post, if any, would accomplish the best results. Advanced penologists are pretty generally agreed that for major crimes the indeterminate sentence, with its reformative possibilities, must be the hope of the future in dealing with the criminal. The use of corrective flogging may possibly enter into the reformative system with benefit, as at Elmira; but this is a very different thing from inflicting pain upon a criminal as a retributive measure; *i.e.*, causing him pain because his crime has involved the infliction of pain upon his victim. We should regret to think that such a vengeful application of corporal punishment could meet the approval of the medical profession. And we very much doubt whether any application whatever of corporal punishment would meet their sanction.

THE EFFECTS OF INTENSE COLD UPON THE MIND.

EXTREME cold, as is well known, exerts a benumbing influence upon the mental faculties. Almost everyone who has been exposed, for a longer or shorter period, to a very low temperature has noted a diminution in will-power, and often a temporary weakening of the memory. Perhaps the largest scale upon which this action has ever been studied was during the retreat of the French from Moscow. The troops suffered extremely from hunger, fatigue, and cold—from the latter perhaps most of all. A German physician who accompanied a detachment of his countrymen, has left an interesting account of their trials during this retreat. From an abstract of this paper by Dr. Rose, in the *New Yorker Medicinische Monatschrift*, we find that of the earliest symptoms referable to the cold was a loss of memory. This was noted in the strong as well as those who were already suffering from the effects of the hardships to which they had been exposed. With the first appearance of a moderately low temperature (about five degrees above zero Fahrenheit), many of the soldiers were found to have forgotten the names of the most ordinary things about them, as well as those of the articles of food for the want of which they were perishing. Many forgot their own names and those of their comrades. Others showed more pronounced symptoms of mental disturbance, and not a few became incurably insane, the type of their insanity resembling very closely senile dementia. The cold was probably not alone responsible for these effects, for a zero temperature is rather stimulating than paralyzing in its action upon the well-fed and the healthy. These men were half-starved, poorly clad, worn out with long marching, many already weakened by dysentery and other diseases, and all mentally depressed, as an army in defeat always is. It needed, therefore, no very unusual degree of cold to produce the psychic effects observed under other circumstances only as a consequence of exposure to an extreme low temperature.

THE GRIP.

THERE seems to be no doubt that "grip" is prevailing very extensively throughout this city and its suburbs. It usually takes the form of a rather sharp attack of bronchitis or coryza, with pains in the limbs and back. There is a slight rise in temperature of one to three degrees. The patient is usually quite prostrated, and feels depressed and weak for several days or longer. The disease, so far as we can learn, is much milder than it was when it first visited us in 1891. Occasionally, however, pneumonia develops with serious results. During the first week of this year there were 7 deaths from grip; during the first week of 1894 there were 13; of 1893, 3; of 1892, 89; of 1891, 19.

The grip, as it now affects the population, runs a course in most cases like an ordinary cold, and is distinguished only by the pains and prostration that accompany it, and by the greater evidence of contagion. Once in a family it is very likely to attack many or all of its members.

Much good advice has been given as regards prophylaxis; but no specific is known. The avoidance of exposure, of excessive fatigue, and, especially, of close association with those who have the disorder, is to be recommended. Undoubtedly, the use of quinine and iron and of throat gargles, and attention to the diet, are helpful. Doctors are apparently very susceptible to it, and this is due, no doubt, to their frequent association with cases of the disease, and to the fatigues and exposure incident to their calling. Medical men are not as wise in caring for themselves as they are in looking out for others.

The Charcot Monument.—The subscriptions toward the erection of a monument to Charcot, received directly by the Committee, now amount to about twenty-five thousand francs (£1,000). Of this a large part has been contributed by foreign admirers of the great neurologist. In addition to this sum the *Progrès Médical* has collected about ten thousand francs for the same purpose.

News of the Week.

Dr. Parker Widney died of pulmonary phthisis on December 23, 1894, in Piqua, O. He was a graduate of the University Medical College in this city in the spring of 1893, and gave promise of a brilliant career. But his health failed, and despite a sojourn in Southern California he was obliged to abandon the hope of practice, and returned to the home of his parents, where he died.

A Severe Epidemic of Diphtheria is prevailing in the town of Wesley, Mass., near Northfield. Wesley is a town of about three hundred inhabitants, mostly Bohemians. Already there have been over fifty deaths.

The Third International Dermatological Congress will not be held this year as was proposed. The time of meeting has been postponed because the British Medical Association meets in London this summer, and it was feared by the Executive Council of the Congress that the autonomy and international character of the Congress would be imperilled by holding its meeting at the same time and place; as well as that the necessarily divided interests of the British dermatologists would prevent that full exercise of hospitality to their foreign visitors that they so much desire to extend. As the next meeting of the International Medical Congress will be held in Moscow, in 1896, it is possible that the Dermatological Congress may not be held until 1897.

The Late Dr. John W. Pinkham.—The Orange Mountain Medical Society of New Jersey, learns with deep regret of the death of Dr. John W. Pinkham. Dr. Pinkham was born in Gardiner, Me., was a graduate of Haverford College, Pa., and of Bellevue Medical College, New York. He commenced the practice of medicine in Montclair, N. J., in 1867, and was so engaged until 1890, when by reason of ill-health he was compelled to give up active work. He died December 7, 1894, of apoplexy. He was the author of numerous articles on hygiene and preventive medicine. Dr. Pinkham was a charter member of the Orange Mountain Medical Society, and continued an active and earnest worker until his resignation—on account of ill-health—in 1892. The Society greatly regretted his loss and elected him an honorary member. His work on intubation of the larynx will long be remembered by his associates. It is the wish of this Society to express its deep sorrow for his death, and show its earnest sympathy for the bereavement which has befallen his family.

MEFFORD RUNYON,
JNO. J. H. LOVE,
WILLIAM H. WHITE,
Committee.

Corporal Punishment for Certain Forms of Crime.—Dr. Andrew F. Curier, in a paper before the New York Academy of Medicine, January 9th, strenuously advocated corporal punishment for wife-beating and other forms of personal brutality, and urged that a suitable law for that purpose be enacted. None of the usual punishments inflicted appealed to the brutal natures of the criminal, and the infliction of pain was apparently the only remedy. The object of such castigations being deterrent and reformatory, the only spectators necessary were the castigator and a physician. The efficacy of flogging in Delaware was also referred to. A communication from Dr. W. C. Wey, of Elmira, was read, referring to the beneficial results of such punishment in the Elmira Reformatory. The discussion was opened by Elbridge T. Gerry, Esq., who warmly seconded the proposal, and who advocated the infliction of such punishment not only upon woman-beaters, but those guilty of sodomy, assaults on children, and like crimes against the person. He also read the text of a bill to be presented to the Legislature. The Rev. Dr. B. F. De Costa and Dr. E. H. Grandin also favored the measure, the latter advocating emasculation for lustful crimes.

Hospitals and Fire-escapes.—A bill has been introduced into the New York Legislature providing that hospital buildings over two stories high shall have iron stairways constructed on the outside of the buildings to be used in case of fire.

The Sixteenth Congress of Balneology will take place in Berlin on March 7, 1895, and four following days, under the presidency of Professor Oscar Liebreich.

Dr. Bertillon, the inventor of the anthropometrical system, asserts that he has discovered a new process for identifying handwriting. It is based on the measurement of beatings of the pulse, which are said to have in everybody a different and characteristic effect on handwriting. The inventor enlarged specimens by photography till the letters were a foot high, and then the characteristic marks were seen.

The New York City Health Board will appoint six new assistants in the Bacteriological Department, at an expense of $12,000.

New York State Board of Health.—Governor Morton has nominated for this board Daniel Lewis, M.D., of New York; S. Case Jones, M.D., of Rochester; and Owen Cassidy, of Havana.

Proposed Coroner Legislation.—A bill has been introduced into the New York Legislature providing for one coroner in New York when the terms of those now in office expire. He is to be a judicial officer solely, to sit without a jury, at a salary of $10,000. The duties of investigation, etc., are to be performed by the Coroner's physicians, of whom there will be six instead of four.

A Bill is Pending before the Alabama Legislature, compelling patent medicines to have the formula printed on the bottle. A strong lobby is working against it.

Hypnotism and Its Effects.—The town of New Regel, O., is a religious community. A travelling hypnotizer recently hypnotized a large number of the citizens. For several days after the town was subject to epidemic insanity evident in hypnotic performances, which rival those of witchcraft times. In a murder case on trial at Columbus, O., the prosecution claims that the insane performances of the defendant in the

court were due to his having been hypnotized for the purpose. It is said to be established that a physician practised hypnotism on the alleged murderer.

An Aged Medical Bicycler.—Dr. Westbrook Farrier, of Biddeford, Me., is, so the story runs, in active practice at the age of ninety-eight, and is in the habit of visiting his patients regularly on a bicycle. He attributes his exceptional vigor at this advanced age to the use of wintergreen tea, of which he is an ardent advocate.

The Chicago College of Physicians and Surgeons is about to be absorbed by the University of Illinois. The University trustees have recommended the purchase of the college for an amount not to exceed $160,000.

Dr. J. E. Lee, of New Haven, Conn., recently acquitted of murder in an alleged case of malpractice, must stand a new trial under a recently passed act, which revives in this State what Macaulay calls "the most absurd and odious proceeding known to the old English statute law," the appeal of murder. The law is clearly unconstitutional under Amendment VI. of the United States Constitution.—*Medical Standard.*

Death from Chloroform.—Dr. F. J. Hodges, of Anderson, Ind., recently gave a woman, suffering from a uterine tumor, chloroform. It was then found the tumor did not permit of operative treatment. The patient died soon after regaining consciousness.

The Professorship of Physic at Oxford has been held for thirty-six years by Sir Henry Acland, who has just resigned. His place is filled by the appointment of Professor Burdon-Sanderson. It is proposed to raise a testimonial fund of $50,000 for the endowment of the Sarah Acland Home for Nurses.

The City Board of Health.—It is announced that Dr. Charles S. Benedict has been appointed to succeed Dr. Doty as chief of the Bureau of Contagious Diseases.

Professor William Osler.—The announcement that Dr. William Osler, of the Johns Hopkins University, Baltimore, has been called to the presidency of McGill University is not true.

A State Examination in Georgia.—The new law providing for a State board of medical examiners (really, three boards—regular, homœopathic, and eclectic), went into effect on January 1st.

The Priority of the Discovery of Antitoxin.—Professor Jaime Ferran, of Barcelona, has called the attention of the editors of the *Deutsche medicinische Wochenschrift* to a paper by him entitled "Nota sobre la vacunacion contra el envenenamiento difterico agudo experimental," bearing date April, 1890, in which a safe and practical method of immunizing animals against fatal doses of the diphtheria poison, successfully employed by him, is described. On the basis of this publication, which appeared eight months before Professor Karl Fraenkel's communication on the same subject, Dr. Ferran claims the priority of the discovery. The Spanish bacteriologist's claim, together with the *pièces justificatives*, having been submitted to Professor Karl Fraenkel, has been frankly acknowledged by him to be well founded. He says (in a letter published in the *Deutsche medicinische Wochenschrift* of December 27th) that after reading Dr. Ferran's paper he has been able to convince himself that the Spanish worker had in fact, in April, 1890, reported the result of prolonged experiments on the immunization of guinea-pigs against infection with diphtheria bacilli, adding, "there can therefore be no doubt that in this question decisive priority belongs to him." Professor V. Babes, of Buda-Pesth, also lodges a claim on his own behalf. He points out, in the same number of the *Deutsche medicinische Wochenschrift*, that, whereas the first communication by Drs. Behring and Kitasato on the immunizing power of the blood-serum of artificially immunized animals in the case of tetanus, was published in 1890, in the *Deutsche medicinische Wochenschrift*, No. 49, 1890, he, in co-operation with Dr. Lepp, had established the same principle as regards "a not less important infective disease" (hydrophobia) in 1889, in a paper published in the *Annales de l'Institut Pasteur*, July, 1889. Professor Babes, however, admits that to Behring belongs the credit of applying the principle to diphtheria. All he claims for himself is that he took a definite part in laying the foundation-stone of the great and solid structure which Behring and his fellow-workers have raised.

The Discussion on the Value of the Diphtheria Antitoxin at the Berlin Medical Society, was concluded at the third session of the society. Dr. Schiemmann warned general practitioners against employing the antitoxin, which he said should be left to the hospitals for the present. Professor O. Liebreich, director of the Pharmacological Institute of the University, criticised the published serum statistics. He said that the Berlin hospitals had always had a much higher percentage of deaths from diphtheria than the Berlin town practice. This was because, broadly speaking, only serious cases were brought to the hospitals. But since the introduction of the serum treatment, a far greater number of cases—and cases of all sorts—had been brought to the hospitals, and so it was quite natural that the percentage of deaths had fallen considerably. He considered the serum treatment to be based on fallacies very similar to those which had formed the foundation of the tuberculin treatment. It would be interesting to find out, he added, what action on the organism injection of pure indifferent serum would have. Dr. Hansemann, in a few last words, stood to his view that antitoxin is not to be regarded as a specific for diphtheria.

The Sixty-third Annual Meeting of the British Medical Association will be held in London on Tuesday, Wednesday, Thursday, and Friday, July 30th, 31st, August 1, and 2, 1895. *President*, E. Long Fox, M.D. Oxon., F.R.C.P., Consulting Physician to the Bristol Royal Infirmary, Eng. *President-Elect*, Sir J. Russell Reynolds, M.D., Bart., F.R.C.P., F.R.S., President of the Royal College of Physicians.

The New York County Medical Association.—At the meeting of the New York County Medical Association, held December 17th, a resolution was adopted protesting against the appointment by Governor-elect Morton of a homœopathic practitioner to supersede Dr. Joseph D. Bryant in the position of Surgeon-General of the State.

Reviews and Notices.

FOOD AND FEEDING. By SIR HENRY THOMPSON, F.R.C.S., M.B. Lond., etc. Seventh Edition. Partially rewritten and considerably enlarged. London and New York: Frederick Warne & Co.

LARGE editions of this book upon food and feeding, one of the most important and interesting branches of study, have been demanded by an appreciative public during the past few years. Since the original work was first published, a more general interest in the subject has been awakened everywhere in the English-speaking world, and a wider knowledge has become necessary. To meet this progressive spirit, whole parts of the book have been rewritten and valuable additions introduced in the form of notes, new chapters, an appendix, and methods and principles of practical cookery. The seventh edition of this well-known standard work is essentially modern and of the most penetrating simplicity. It is a convincing argument in favor of good living, of the wise selection and right preparation of food that secures health and æsthetic happiness at table. Variety is scientifically commended, the relative value of ordinary articles of diet is considered, and the treasures of the *pot au feu* are revealed. The book is printed in convenient form, with marginal abstract notes of the text that facilitate its study and serve for ready reference. "Food and Feeding" is an authority for enlightened laymen who desire to live well and to know just how to do it in the best sense.

HOME TREATMENT FOR CATARRHS AND COLDS. A Handy Guide for the Prevention, Care, and Treatment of Catarrhal Troubles, Cold in the Head, Sore Throat, Hay-fever, Hoarseness, Ear Affections, etc. Adapted for use in the Household, and for Vocalists, Clergymen, Lawyers, Actors, Lecturers, etc. By LEONARD A. DESSAR, M.D., Visiting Laryngologist to St. Mark's Hospital and to Mt. Sinai Hospital Dispensary, etc., etc. Illustrated. New York: Home Series Publishing Co. London: Baillière, Tindall & Cox. 1894.

PRESUMING it to be necessary and wise to place instruction for self-treatment in the hands of the people, it is self-evident that the instruction should be reliable. In the little volume presented the author shows himself familiar with the conditions discussed and the ways to relieve them. The style is such that anyone can understand.

PHYSIOLOGY FOR BEGINNERS. By M. FOSTER, M.A., M.D., F.R.S., Professor of Physiology in the University of Cambridge, and LEWIS E. SHORE, M.A., M.D., Fellow of St. John's College, Cambridge, and Senior Demonstrator of Physiology in the University of Cambridge. New York and London: Macmillan & Co. 1894.

THIS is a very elementary work for those having no previous knowledge of the subject, written by Dr. Shore and supervised by Dr. Foster. Illustrations are freely scattered through the pages, some borrowed, some original. Considering its aim, it is not a bad little book.

ESSENTIALS OF CHEMISTRY AND TOXICOLOGY. For the use of Students in Medicine. By R. A. WITTHAUS, A.M., M.D., Professor of Chemistry and Physics in the University of New York; Professor of Chemistry and Toxicology in the University of Vermont; Member of the Chemical Societies of Paris and Berlin, etc. Twelfth Edition. New York: William Wood & Co. 1894.

HOW essential this quiz-like *vade mecum* has become to the student is indicated by the edition already reached. The chief changes to be noted are the arrangement of many of the alkaloids in their proper classes, and rearrangement of the carbon compounds. Advances in physiological chemistry have been noted. While some parts have been rewritten the bulk of material remains the same.

The little work belongs to the Wood's Pocket Manual Series, and is of the same size and style as the Cutaneous and Venereal Memoranda, etc.

REPORT OF THE SECTION ON SURGERY AND ANATOMY, at the Forty-fifth Annual Meeting of the American Medical Association, Held at San Francisco, Cal., June 5, 6, 7, and 8, 1894. Chicago: Journal of the American Medical Association. 1894.

THIS is a collection of the addresses, papers, and discussions. The first address by the Chairman, Dr. J. B. Roberts, is entitled "Some Surgical Sins." Many others are found in the succeeding four hundred pages.

PRACTICAL URINALYSIS AND URINARY DIAGNOSIS. A Manual for the use of Physicians, Surgeons, and Students. By CHARLES W. PURDY, M.D., Queen's University, Fellow of the Royal College of Physicians and Surgeons, Kingston; Professor of Urology and Urinary Diagnosis at the Chicago Post-Graduate Medical School; author of "Bright's Disease and Allied Affections of the Kidneys;" also of Diabetes, its Causes, Symptoms, and Treatment. With numerous illustrations, including photo-engravings and colored plates. Philadelphia: The F. A. Davis Co., Publishers. London: F. J. Rebman. 1894.

HE who tests his patient's urine—and this should include to-day all physicians who do not have the work done for them—must often feel the inadequacy of many of the smaller works on urinary analysis. Before one has read many pages of the book here described, a feeling of security is experienced. The test you have been looking for is found, or the facts about acetonuria which you lacked are given; or the ptomaïnes and toxins about which you desired information are discussed. The many new tests for albumin which have appeared from time to time, you are pleased to find here collected together. The clinical significance of the various deposits is found to be a valuable feature of many chapters. Then in Part II. Urinary Diagnosis is given a hundred pages, and this is followed by an appendix on examination of urine for life insurance. The type is clear, the illustrations are fairly good, and altogether it is a very practical work.

ATLAS UND GRUNDRISS DER TRAUMATISCHEN FRACTUREN UND LUXATIONEN, von PROFESSOR DR. H. HELFERICH in Greifswald. Munich: J. F. Lehmann. 1895.

THIS is one of the excellent series of medical hand atlases in course of publication by Lehmann, of Munich. There are sixty-four lithographic plates, with one hundred and sixty-six figures drawn by Dr. Joseph Trumpp, with explanatory text by Professor Helferich. We hardly know which to praise the most, and can only say that text and illustrations are worthy of each other, the two together forming a handy and useful guide to the art of diagnosing and treating fractures and luxations in the various parts of the body. With this little manual one can hardly fail to comprehend the mechanism of bone injuries of whatever sort, and, having that well in mind, to institute the proper treatment.

Prosthesis in Germany.—According to a recent consular report, American artificial limbs would have a great sale in Germany were there agencies established there by the manufacturers. The German makers of artificial limbs are less ingenious than their brethren in America, the limbs are heavier, less convenient, and more durable.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 15, 1894.

D. B. St. John Roosa, M.D., President, in the Chair.

Amendment to By-laws Adopted.—The amendment to the by-laws, proposed by Dr. A. M. Jacobus, fixing the annual dues of members living in the State, but outside of New York and adjoining counties, at $5, was adopted unanimously.

Further Observations on the Treatment of Malignant Tumors with the Toxins of Erysipelas and Bacillus Prodigiosus.—Dr. William B. Coley read the paper and presented four patients cured by this method. (See p. 65.)

Dr. Charles McBurney said there was no denying the importance of the results in Dr. Coley's cases. If the number benefited or cured had been much less, the interest would still remain. It was difficult to be satisfied with the discrepancy which existed between Dr. Coley's results and those obtained by other observers. He should think, however, that a good many of the imperfect results could be accounted for by the imperfect material employed or want of proper selection of cases. It was hard to explain, too, why the same material injected in one case of sarcoma should stop its growth and even cause its absorption or disintegration, while in another exactly similar case it had no retarding effect whatever. Until a satisfactory explanation could be given for such facts, or more uniform results could be obtained, one was restrained from forming too sanguine an opinion of the future of the treatment.

Three Unsuccessful Cases.—Dr. McBurney's own experience with the method had been limited to three cases, and in all Dr. Coley had inspected the patients and approved of the trial being made. One was a case of giant-cell sarcoma occurring after amputation of the hip-joint for very large tumor of the femur. The treatment had been begun three weeks ago, and had been continuous, under Dr. Coley's observation, but without apparent result, for the tumor had gone on increasing somewhat in size. Another was a case of multiple sarcomatous tumors, some involving the skin, some lying underneath it, the whole number being great. As in the former case, the constitutional manifestations following the injections were marked, but the only effect upon the disease seemed to be that it had spread, and Dr. McBurney believed it had extended to the pleura. The third case was one of sarcoma of the neck which had extended down behind the sternum so far that he was able, by operation, only to partially relieve constriction of the trachea. This patient had been under treatment by the toxins of erysipelas three weeks. His dyspnœa had become less and the sarcomatous tissue had probably diminished.

Dr. George F. Shrady, who had been invited to take part in the discussion, was unable to be present, but sent a brief account of his successful experience with the treatment of inoperable sarcoma by the toxin method, limited to one case, carried out by Dr. Coley, and described in the paper.

The Wesley M. Carpenter Lecture; Important Facts Relative to Malignant Disease.—Dr. Joseph D. Bryant read the lecture from a written paper. It led up to the following conclusions: 1. The death-rate from malignant disease is constantly increasing in all civilized countries. 2. The death-rate is larger in cities, irrespective of transient fluctuations, than in the country. 3. In limited portions of the country and some cities the death-rate from malignant disease is inexplainably and disproportionately large. 4. The increase of malignant disease demands urgent consideration and prompt methods of combat on the part of all concerned. 5. Better post-operative prognosis can be obtained by proper demand for it and prompt action of the profession. 6. When considerations for health and strength shall excite the same degree of forethought and vigilance as does the desire for wealth and power, then the post-operative prognosis will be very much improved.

Dr. Bryant showed by elaborate statistics the steady increase in death-rate from cancer in Berlin, Vienna, London, New York, Philadelphia, England, America, and various other cities and countries. After making all possible allowance for errors, one could not but reach the conclusion that this increase was real and not only apparent. The increase in death-date had varied somewhat in different places, but the following was a fair representation: Ten years ago, of the total deaths, 2.67 per cent. due to cancer, whereas, during the last ten years it had increased to 3.54 per cent. In New York City the preceding ten years, 1.82 per cent.; the past ten years 2.78 per cent. If such a mortality were caused by cholera or small-pox, governments would bend their energies to check it.

The chief mode of dissemination of cancer in the afflicted was through the lymphatics. A collection of cases was given which showed that in a large proportion involvement of the neighboring lymphatics was recognizable; also the tardiness of patients with cancer in presenting themselves for treatment; the procrastination of physicians in removing primary cancer or in referring the patients to a surgeon; also the relative results of early and late operation, which was greatly in favor of the former. Prompt and thorough removal was necessary to cure, yet indifference, trepidation, and procrastination had characterized the action of patient and doctor in this very fatal disease. All should be vigilant, vigilant, vigilant!

Committee to Consider Cancer.—Dr. Herman M. Biggs: In view of the increasing frequency of malignant disease and the importance of early diagnosis and removal, I would move that a committee be appointed by the President from representatives of the surgical staff of the different city hospitals to consider, in a broad way, the subject of malignant disease, its causation and prevention, and to report to the Academy such measures as may seem conducive to early diagnosis and successful treatment.

Dr. Armstrong moved, as an amendment, that, since the physician saw these cases before the surgeon, certain prominent physicians of the city should constitute a part of the committee.

Dr. Biggs accepted the amendment and the motion was adopted. The President said he would appoint the committee later.

The President announced the anniversary oration on November 28th, by Dr. Dana, and that the two meetings in December would be devoted to papers on the important subjects of diphtheria and bicycling, while at the succeeding one Dr. Lewis A. Sayre would read a paper.

Fast Living. — The most remarkable instance of rapid growth is said to be recorded by the French Academy in 1729. It was a boy six years of age, five feet six inches in height. At the age of five his voice changed, at six his beard had grown, and he appeared a man of thirty. He possessed great physical strength, and could easily lift to his shoulders and carry bags of grain weighing two hundred pounds. His decline was as rapid as his growth. At eight his hair and beard were gray; at ten he tottered in his walk, his teeth fell out, and his hands became palsied; at twelve he died with every outward sign of extreme old age.—*Times and Register.*

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 3, 1895.

D. B. St. John Roosa, M.D., President, in the Chair.

Annual Reports.—The annual reports of the trustees and other officers were read. It appeared that the new electric light plant, for which $3,000 had been appropriated, had been completed at a total expense of $2,000. The light was better than when the current had been obtained from the street wires, and the saving yearly would be about six hundred dollars. The sum of $125, paid Dr. Bryant for the Wesley M. Carpenter Lecture, had been presented by the lecturer to the library fund. By the report of the Committee on Admissions it appeared that seventy-three applications had been before the Committee during the year. Forty-six resident fellows had been added to the membership. The President said the work of this Committee was very arduous, and the members deserved much credit for the conscientious and satisfactory manner in which they had discharged their duties.

The report of the Committee on Library showed an accession to the library during the year of 780 volumes, also many journals and pamphlets. They had bound 891 volumes. The year had been marked by the addition of the finest stack-room in the country. There was great need of an endowment fund, since at present the library, which was also open to the public, had to depend almost entirely on the Academy for an appropriation to meet running expenses. A more liberal appropriation was necessary to meet the wants of readers, and the Committee asked for $6,000 for the present year. The Council, however, felt that this amount could not be granted, and recommended $4,500, and on motion the recommendation was adopted by the Academy.

Dr. A. B. Judson, Statistical Secretary, reported the death of Dr. William Detmold, at the age of eighty-five, one of the founders, and three times elected Vice-President.

Election of Officers.—The following nominees having received a majority of a total vote of 219 were declared elected: *President*, Dr. Joseph D. Bryant; *Vice-President*, Dr. W. M. Polk; *Recording Secretary*, Dr. R. H. Sayre; *Corresponding Secretary*, Dr. M. A. Starr; *Treasurer*, Dr. O. B. Douglas; *Trustee*, Dr. George L. Peabody; *Member of Committee on Admissions*, Dr. J. H. Fruitnight.

History of the Treatment of Spondylitis and Scoliosis by Partial Suspension and Retention of Plaster-of-Paris Bandages, and the Present Status of this Plan of Treatment before the Profession of the World.—The author, Dr. Lewis A. Sayre, said that when the President invited him to read a paper before the Academy, it had occurred to him that it would be appropriate to give a *résumé* of this plan of treatment and its position before the profession of the world. Some advocates of the method had gone so far as to claim much more for it than he had ever done. Regarding its origin, he said that for many years he had been in the habit of treating his patients with the Taylor brace, but for those who were too poor to pay for this he applied a "turtle-shell back," consisting of plaster of Paris put on by bandages extending part way around the body and covering the back, while the child lay extended across his knee. Twenty years ago, or in 1875, he first applied the plaster-of-Paris jacket by extending the bandages entirely around the body. At first he had fear of the influence on breathing, but experience showed it was unfounded. The first case was in a boy with Pott's disease, attended by partial paralysis of the rectum and one leg. It was noticed that motion was freer when he was suspended in the hands of an assistant, and that he breathed easier. Ever after that, suspension was employed during the application of the jacket. With the jacket on, the boy was able to walk about.

Dr. Sayre impressed the necessity for attention to detail in the application of the jacket, suspension only to the degree of comfort to the patient, a neatly fitting shirt, smooth application of the bandage, care in preparing the rolls, etc. The jacket ought not to be varnished, else it would become impervious to air, and cause excoriation and discomfort.

When this method of treating spinal troubles was first introduced by Dr. Sayre, twenty years ago, it was received with enthusiasm. In order to learn how it stood before the profession to-day, he had addressed a circular to one hundred orthopœdists and others in various parts in the world, especially Europe and the United States, with the exception of New York City, where it was expected the members would speak for themselves. Many replies had been received, but Dr. Sayre had time to read only a few, and selected those which criticised the method. In the first place, regarding scoliosis, or lateral curvature, he wished to protest against speaking of his method as consisting in applying a plaster-of-Paris jacket and leaving it on for three, four, or more months. Some patients could be cured by gymnastic exercise without any mechanical support whatever, but in other cases artificial support was necessary until the patient could gain voluntary control, and in some this support might have to continue through life. But the jacket should be removable, to permit of systematic exercise. In Dr. Sayre's experience it afforded the best mechanical support where support was required, although the greater number of criticisms received had related to its use in these cases of lateral curvature. He used the hammock, instead of suspension when applying it, only in cases of heart disease and great weakness.

Some of the gentlemen whose responses were read in part or whole were, Drs. Robert Jones, Bernard Roth, Noble Smith, Kinsley, Hodges, Young, T. G. Morton, Goldthwaite, Scudder, Lovett, Bradford, Vander Veer, Ward, Burton, Cook, Roswell Park, More, Hunter McGuire, De Forest Willard, Wilson, Andrews, Wright, Goldenberg, and others. Six had condemned the method entirely, seven used it in certain cases, thirty-eight employed it to the exclusion of all others.

About all the objections offered had been set forth in the letter of Dr. Noble Smith, who said that plaster-of-Paris jackets ought to be utterly condemned, 1, because of their great weight; 2, their interference with free respiration and cleanliness; 3, the fact that they acted simply as heavy, unscientific corsets, pressing upon the chest and adding very little to the support of the spine.

Dr. Sayre answered these objections by saying that a plaster-of-Paris jacket, properly made, was little heavier than a steel support, and in many instances was lighter. Any embarrassment to the respiration was due to the disease, not to the jacket when this was properly applied and not varnished. This even reduced such embarrassment by taking off pressure from the seat of disease and relieving pain. There was no trouble as to cleanliness if the patient were clean before applying the jacket. The accumulative evidence of many physicians was a better refutation than anything he could say of the charge that the jackets were heavy, unscientific corsets, pressing upon the chest and adding very little to the support of the spine.

Of the various substitutes, silicate of soda was light, but it was long in hardening, and did not permit of the insensible perspiration and circulation of air which could take place through plaster of Paris. Celluloid, wood, aluminum, and some other materials were lighter, but were also impervious to air, were more difficult to adjust, and were beyond the reach of persons of small means. But the point for which Dr. Sayre contended was the principle of the treatment, consisting in adapting to the body some plastic material in a position in

Pott's disease to secure the greatest comfort, and in lateral curvature to correct the form. The material of which the jacket was constructed was not essential so long as the principle was carried out, although he thought that in the vast majority of cases plaster of Paris would be found to be superior to other material on account of its cheapness, ease of application, and other facts. Whitman's shoulder-brace was mentioned favorably in certain cases.

Favors the Plaster Jacket.—DR. VIRGIL P. GIBNEY was asked to open the discussion. He belonged to the class who had written Dr. Sayre in favor of plaster, and he had nothing whatever to say against it, but had a great deal to say against the abuse of it, but not on this occasion. He believed there was no instrument so universally serviceable as the plaster jacket. He used plaster not only in Pott's disease, but in hip disease, disease of the knee, ankle, shoulder, elbow, wrist, and was an ardent advocate of it.

DR. A. B. JUDSON wished to add his contribution to the fund of respect which Dr. Sayre had exacted from the world by his labor and enthusiasm during a professional life of over half a century. The plaster-of-Paris jacket had had great popularity and success. It had brought relief in an important degree to a large number of patients and had been a welcome gift to the physician confronted with a case of Pott's disease and remote from an instrument-maker. Before the demonstration made by Dr. Sayre a physician so situated was unable to give mechanical support to the diseased spine, but with the plaster-of-Paris jacket he could treat the patient himself and at once. This jacket, however, does not allow the fine adjustments which are so desirable in the progress of a case of Pott's disease. Its great merit is that it can be applied easily and quickly. But the nature of this disease and the difficulty of its mechanical treatment justify the lavish expenditure of time and attention. The careful adjustments which we can make with soft steel enable us to give the necessary coercion to the bones of the spine and to preserve to the full the comfort and convenience of the patient. We often hear aluminum spoken of as the coming metal for orthopedic uses, but while waiting for it we may well be glad that we have the commercial steel of the present day, whose fine qualities were unknown ten or even five years ago.

DR. R. W. TOWNSEND believed firmly that plaster of Paris was the best dressing for the majority of patients, and by all means the best for use by the majority of practitioners. Other material, as aluminum, applied properly, would be better for certain cases.

DR. H. L. TAYLOR thought that, owing to its cheapness and convenience of application, the plaster-of-Paris jacket had relieved thousands of sufferers who would otherwise have been left to their fate. Its action, he thought, was as an antero-posterior support, but it lost its leverage when it became loose. He preferred a properly adapted steel apparatus, on account of its greater precision, adjustability, and cleanliness. Among orthopedists the jacket was, he believed, taking a secondary position, while those who endorsed it enthusiastically were general surgeons and men who had no experience with braces.

DR. ROYAL WHITMAN used plaster of Paris mostly in disease of the middle and lower region of the spine.

Garbage Should be Burned.—The Section on Public Health, through DR. ARMSTRONG, asked permission to promulgate a resolution condemning the present method of disposing of garbage and advocating incineration. The motion was adopted.

Professor Carl von Noorden, recently of the University of Berlin, has been appointed physician-in-chief of the City Hospital in Frankfort-on-Main, one of the best appointed hospitals in Germany.

OUR LONDON LETTER.

(From our Special Correspondent.)

ANTITOXIN SERUM TREATMENT — EIGHTY HOSPITAL CASES—RESULTS STATED AT CLINICAL SOCIETY—ADJOURNMENT OF DEBATE—PROPOSAL TO PATENT ANTITOXIN—THE SPECIAL MEETING OF THE CLINICAL SOCIETY—ADJOURNED DEBATE ON THE ANTITOXIN TREATMENT OF DIPHTHERIA—RESULT—COMMITTEE APPOINTED.

LONDON, December 21, 1894.

THERE is no lack of subjects for a medical correspondent just now, but among them all the serum treatment holds the field. The English reports published up to last week were those of private practice, but the result of a long series of cases at the Eastern Hospital were given at the Clinical Society last Friday—this day week—in a careful paper read by Drs. J. W. Washbourn, E. W. Goodall and A. H. Card. The serum used was prepared by Dr. Ruffer, at the British Institute of Preventive Medicine, and was used in no less than eighty cases at the Eastern Hospital. No wonder that the announcement of this paper drew a large audience, and the debate upon it had to be adjourned to a special meeting which is being held to-night.

The writers of this paper began the treatment on October 23d, and continued it down to November 27th. Bacteriological examination was made of all the cases directly they were admitted into the hospital. In the majority of instances of true diphtheria the naked eye appearance of the cultivations was characteristic, the diphtheria colonies at the end of twenty hours being opaque and the size of a pin's head. The only colonies resembling them were those of a coccus described by Roux and Yersin, and called by them the "Brison" coccus. They differed in being more transparent and less prominent. It was rare, however, for other than diphtheria bacilli to grow in the tubes. In addition to the typical colonies other diphtheria colonies, much smaller and more transparent, frequently developed. Of the eighty cases examined, all of which were certified to be suffering from diphtheria, the typical bacilli were found in sixty-one. Eleven cases, which on admission presented the clinical aspect of true diphtheria, failed to give evidence of the presence of diphtheria bacillus. Only one of these died, and death was attributed to bronchitis. They found that the fewer the bacteria the better was the prognosis. In addition to the diphtheria bacillus they found straight bacilli of different sizes, comma-shaped bacilli, fine spirilla diplococci, streptococci, and other micrococci. In only seven cases were diplococci absent. No prognostic importance could be attached to the absence or presence or the number of these bacilli. Streptococci were found in more than half the cases, but their presence did not appear to influence the course of the disease. In about a third of the cases characteristic diphtheria bacilli could be distinguished in the exudation, and very few of these cases were of a mild type, and more than a third of them died.

Three cases were associated with "Brison" bacillus, two of these cases being mild, and one moderately severe. The good effects of antitoxin were manifested, (1) by a lessening in the amount of membrane, (2) by a notable fall in the pulse-rate, (3) an improvement in the general condition, and (4) a fall of temperature when this was raised. They noticed that after November 13th, the effects of the serum appeared to be more pronounced, and the dose was consequently diminished, and Dr. Ruffer was written to saying that this had been done. They had learned from him since, that the clinical quite bore out the experimental evidence, the fresh serum coming from a different horse and being at least five times as strong. So far only six patients had developed paralyses, and none of them severe. In six cases pain had been noticed in certain of the joints, the smallest dose to produce this being 10 c.c. The pain

lasted from one to three days, there being, except in one instance, pyrexia. The only local treatment adopted at the same time as the antitoxin was occasional flushing of the mouth and fauces with warm water.

Dr. Herringham said they had had 22 cases at St. Bartholomew's Hospital, of which 4 were doubtful, no bacilli having been found, 5 were severe, and 6 very severe. All the 11 required tracheotomy except one, in which intubation was performed ; 4 were not tested, but in the other 7 the bacilli were present. Only 3 of these 10 cases of tracheotomy died, which was about half the usual average.

Mr. George Turner (Hertford) urged that when the bacillus was not found it did not necessarily follow that the case was not one of true diphtheria, a statement which, he said, was supported by the fact that these cases being introduced into the diphtheria wards, did not contract diphtheria. Dr. Burney Yeo asked whether any attempt was made to determine the precise period of the disease at which the treatment was commenced. That was important because, according to Dr. Roux and others, the results of the treatment were materially influenced by its being initiated early in the case. He asked incidentally whether English surgeons objected to intubation, as it was so little practised here.

At this point it was proposed by Dr. Ord, and seconded by Mr. Golding-Bird, that the debate be adjourned, and as it was evident that it could not be concluded that evening, this course was adopted. A special meeting was thereupon appointed for the continuance of the discussion. That meeting was fixed for to-night, but it will not be concluded in time to give any account of it in this letter.

In connection with this subject it may be as well to state considerable advance has been made here as to the supply of serum. There has been a difficulty in obtaining a supply, but that is being overcome. The British Institute is at work and will soon have more serum available, and there are other sources too, so that in the coming year a full trial will be made of the treatment in this country. Meantime it is reported that some smart commercial speculators are trying to patent the remedy. Considering that all the scientific workers have given their discoveries freely to the world, it seems a monstrous idea that any individual should attempt to grasp a monopoly of the process ; and I should hope the only result of such an attempt may be to saddle the sordid speculator with a defeat and heavy costs.

LONDON, December 28, 1894.

The debate on the serum treatment of diphtheria at the Clinical Society was resumed on Friday, 21st, when many interesting cases and statistics were re-reported. The testimony of those who gave their experience was decidedly in favor of the new treatment, especially when begun early, but even at a somewhat later stage the antitoxin seemed to exercise a favorable influence. The facts adduced seemed to offer no opportunity for criticism, and want of space forbids more than a brief report of the more salient points of the speeches made.

Dr. Golding-Bird said, surgeons were interested only in the question as to how far the use of antitoxin assisted in surgical measures necessitated by complications. They could not await the information afforded by antitoxin in the presence of these complications, because it admittedly took twenty-four hours to act. Albuminuria too, was, if present, by no means always indicative of diphtheritic nephritis. The author's mortality after tracheotomy, in cases treated by antitoxin, were three out of nine, equal to sixty-six per cent. of recoveries, the operation having been undertaken—this being an important point to bear in mind—not in view of possible contingencies, but because the child was actually menaced with asphyxia, was certainly satisfactory and even brilliant. He had performed tracheotomy in some sixty cases of "croup," and could only claim about from twelve to thirteen per cent. of recoveries. The difference between this or the nineteen per cent. which obtained among the author's patients prior to the use of antitoxin, and the six out of nine after its use, was very striking. The remedy presumably acted through the system, and if this were the case there must be a limit to the time at which it could be usefully employed. It would be useful to know what was this limit. He pointed out that suffocation was not so fatal in these cases as septic pneumonia, which was such a common complication, and asked whether antitoxin had any effect.

Dr. David Newman, of Glasgow, remarked on the difficulties of diagnosis, and gave some account of a case showing that the absence of bacilli did not prove that the affection was not diphtheria. In the severe epidemic of diphtheria in Glasgow during the last two months, he had seen a large number of the severer cases. The difficulty of ascertaining the exact strength of the serum employed was a drawback to its use, and he suggested that there must be some substance therein which could be separated. At present they were compelled to introduce a large quantity of serum which, from a therapeutical point of view, was useless. Still he had never seen the serum do any harm beyond the production of a rash within twenty-four hours following the injection. He had almost always found that the membrane separated much more rapidly after the injection than was usually the case, but he added that while using the serum he also continued the ordinary methods of treatment. The fall in temperature was sometimes as much as 3° when 104° or thereabouts, and less in proportion when the rise was less. The worst cases were those in which there was no rise, and in such cases antitoxin did no good. He stated that a nurse engaged in looking after patients suffering from diphtheria, at one time suffered from occasional attacks of sore throat, but after about two years these ceased, and since then, to encourage a child to eat, she would often eat out of the same dish, without contracting the disease. The serum he employed was Behring's.

Dr. Herbert Hawkins urged that in view of the many varieties of antitoxin now on the market, it was absolutely necessary for observers to state what particular serum they used. Aranson's antitoxin was a secret remedy, and differed from all the others in the smallness of the dose required. The method now employed by Dr. Klein was, he believed, the method formerly employed by Behring and discarded. He had endeavored to produce a supply of antitoxin for himself, and found it was possible to immunize a horse within a month by employing agar cultivations, the virulence of which had been attenuated by age. It was impossible to compare a fluid obtained in this way with that furnished by Dr. Ruffer, 5 c.c. of it absolutely and certainly protecting a 500-gramme guinea-pig against a treble full toxic dose of unattenuated virus. His experience with that fluid at St. Thomas's Hospital and the London Fever Hospital, had fully convinced him of the value of this method of treatment. He had never seen such rapid cures as followed its use. In two cases in which tracheotomy had to be done, the tube was removed at the end of three days, unusually early. In all the cases the typical bacillus was found. Both the fatal cases contained streptococci, and also a coccus which liquefied blood-serum in three or four days. The large dose of the remedy was a great drawback.

Dr. MacCombie said he had used, at the South-eastern Hospital, serum obtained from Dr. Ruffer on 31 cases, of which 3 died. Many of these were not "completed" cases, and one more, at any rate, would probably die. He admitted in all 54 cases of diphtheria, but he did not think it desirable to employ the serum in all. Of the whole 54, 7 died, giving a mortality equal to thirteen per cent. Nearly all the 54

were under fifteen, and all the 31 treated cases were. This was a lower mortality than he had seen before; but it was necessary to be very careful in drawing conclusions from a limited number of cases, extending over a short period. During the present year the mortality among cases under fifteen had been as follows: January, 21 cases, with a mortality of forty-two per cent.; February, 17 cases, with thirty-five per cent.; March, 16 cases, with thirty-one per cent.; April, 24 cases, with twenty-nine per cent.; May, 28 cases, with thirty per cent.; June, 32 cases, with thirty-four per cent.; July, 70 cases, with thirty-seven per cent.; August, 43 cases, with eighteen per cent.; September, 57 cases, with 29.8 per cent.; October, 48 cases, with twenty-five per cent.; November, 23 cases, with twenty-five per cent. There was thus a striking falling off in the mortality after July. Had the treatment been commenced in August, it might have been attributed to the serum. Apart from this, however, antitoxin certainly appeared to exercise a considerable influence on the course of the disease, especially when used early. He had not used it in any case that had been ill more than four days prior to admission, but he thought it should be tried in all cases, at whatever the stage, unless the patient was actually moribund. The serum appeared, in some cases, to prolong the irregularity which characterized the pulse in this malady. He had had one case of relapse twelve days after the first injection, in an adult. There was a rash in fifty per cent., but this might be due to the fact that he employed comparatively large doses. The rash was often accompanied by a rise of temperature. In only two cases were there subsequent joint pains. Though it was early to speak of paralysis, he was satisfied that this was less frequent than when the serum was not used.

Dr. Caiger's experience at the Southwestern Hospital, confirmed the results obtained by the authors. He had no doubt of the great usefulness of the remedy, but the important thing was to get the cases under treatment early. He had used it in all his cases admitted during the last three weeks, 30 in number, with 8 deaths; five of the eight died within twelve hours of admission, and three indeed within three hours, so that they were hardly a fair test. The proportion of these cases calling for tracheotomy was materially diminished by the treatment. The chances of paralysis developing, especially the early and fatal form, were admitted on all hands to depend on the extent and persistence of the membranes, hence the necessity of taking the cases in hand early. The type of disease during this period was unusually severe, the mortality at all ages being thirty per cent. It varied, in corresponding series, between fifty-two and twenty-seven per cent., but he had never seen it for two consecutive months as low as thirty per cent. His own experience agreed with those French observers, as to the presence of pyogenic organisms having an unfavorable influence on the prognosis, which, with pure cultivations, was mild. The description given by Dr. Washbourn, of what he called typical colonies, suggested colonies of streptococci and Brisson cocci, and he asked how he satisfied himself experimentally that these colonies were really of the diphtheria bacillus.

Dr. Tirard said Dr. Willcocks and himself, at the Evelina Hospital, had treated with Behring's serum eight cases, recognized clinically as diphtheria; bacteriological examination in several confirming the diagnosis. Albumin was present in some amount in all, together with a fairly large amount of membrane and marked depression. Of these eight cases one died, but at the post mortem erosion of the tonsillar artery was found. Two of the other cases were very severe, one so much so that tracheotomy had to be done at once, and the patient was so bad that they hesitated whether or not to risk wasting the antitoxin on the case. Both recovered, and the tubes were removed on the third day. The improvement under antitoxin was in all cases most striking. In one case a transient urticarial rash followed the injection.

Dr. Thomas Eastes said he had used Aranson's antitoxin in several cases, and he showed the temperature charts, indicating a marked fall after the injections. As the severity of a case was often an exchangeable term for duration, it was well to begin the treatment early. As his supply of the remedy was limited he only used it in severe cases. The first seven cases did satisfactorily. The eighth was apparently a mild case, but it got worse, and an injection was given. The child died suddenly, of heart failure, a week later. Two of the other fatal cases were dying of suffocation and required tracheotomy at the time of giving the injection. He did not think the serum really neutralized the toxins, or they would not get heart failure and paralyses developing several weeks later.

Dr. Sims Woodhead divided cases into two main classes: 1, Those in which the diphtheria bacillus preponderated, in which a fatal issue, if it occurred, did so early; and 2, those associated with streptococci, in which the fatal issue occurred later. They must be prepared to put up with the injection of comparatively large quantities of serum. It might be possible to render it stronger, but he doubted if it would ever be possible to separate and preserve, in an active form, a body which must necessarily possess a very unstable molecular composition.

The serum, as prepared by Klein's method, was quite a different substance to that prepared by Roux and Ruffer, and Dr. Klein, in view of this fact, proposed to call his preparation "antimycetin," considering that it had a greater action on the bacilli than on the toxins secreted by them. There were thus two distinct processes, one in which apparently, a virulent poison is formed at the site of inoculation, giving rise to a series of changes; another, induced by different poisons, apparently formed from the proteids of the body, which appeared to have a definite effect on the muscles and nerves corresponding to the changes which occur at a later period of the disease. This was on a par with the products used in such a disease as tetanus, the symptoms of which resembled those of a late stage of diphtheria. This fact might explain how it was that injections had been attended by so little success in tetanus, the disease having already reached an advanced stage before it came under observation. It would thus seem that the ordinary antitoxin only neutralized the poisons formed early in the disease.

Dr. Goodall, in reply, said they had noted the date of the disease in their patients as far as this could be ascertained; but as the information was necessarily second-hand and not altogether reliable, they did not think it desirable to complicate their conclusions by dwelling on this point. He had such a table, from which it appeared that out of 32 cases treated within three days of the commencement of the disease, only 2 died, whereas in 29 admitted between the fourth and the fourteenth day 11 died, so that there is evidently a very marked difference in the results according to the date at which the treatment was begun. It must be borne in mind that cases were met with that had been suffering for several days without appearing to be very ill, and he was not disposed to abstain from trying antitoxin in any case, for even in the cases which subsequently proved fatal the reaction was very marked. Mr. Lennox Browne had alluded to aneuria as, in his opinion, apparently caused by the injections, but everyone who knew anything about diphtheria knew that a tendency to aneuria was one of its commonest symptoms; it was indeed one of the direct effects of the diphtheritic poison. If the serum would determine nephritis, how was it that in none of the non-diphtheritic cases treated by serum was there albuminuria? (3) They had never seen a rash form as early as twenty-four hours after the injection, usually only after several days. On dividing the cases during 1893 into series of 72, the least mor-

tality had been twenty-five per cent., and the highest 45.8 per cent.; twenty-five per cent. was, however, the lowest ever reached, and in only one other series was it below 30 (twenty-seven per cent).

Dr. Washbourn also replied and said antitoxin did neutralize the diphtheritic poison, for this was the means by which they ascertained its strength. It was not, however, akin to the neutralization of an acid by an alkali, that is to say, it was not a chemical reaction. It seemed as if after the diphtheritic toxins had been some time in the body they underwent a change, and this might explain why antitoxin did no good in the later stages. He mentioned the case of a nurse who attended cases of diphtheria, in whom they found virulent diphtheria bacilli for months together without any affection of the health or throat. The extreme variations in the mortality commented upon by several speakers, would not obtain if sufficiently large numbers were taken.

At the conclusion of the debate, the President announced that it had been decided to appoint a committee to report on the serum treatment.

THE ORAL AND MANUAL METHODS OF INSTRUCTION OF THE DEAF.

To the Editor of the Medical Record.

Sir: You must allow me to call your attention to several serious misstatements which appear in an editorial article on the "Oral Education of the Deaf" in the Medical Record of December 8, 1894.

Professor Bell's essay on "A Possible Deaf Variety of the Human Race" makes no such claim as that "one-third of the children of deaf and dumb parents were congenitally deaf," nor do the statistics he presents warrant any such claim.

The number of intermarriages of deaf persons educated in manual schools is not greater than among those educated in oral schools. Professor Fay has not "persistently delayed" the publication of important statistics, and the reiteration of this charge by Dr. Miller, after he had been informed of its injustice, is greatly to his discredit.

My father was never "sent abroad to study the Braidwood system," nor did he go to Europe from Boston in 1817. Public-spirited citizens of Hartford, Conn., provided the means in 1815 for him to visit Europe and acquaint himself with the best available methods of educating the deaf.

It is wide of the mark to say that the "oral" method was never introduced into America until 1887 (an evident misprint for 1867). It was employed in the New York Institution as early as 1819; and beginning in 1855, the Institution at Hartford, the oldest in the country, had regular instructions given in speech and lip reading to many of its pupils.

Nothing could be further from the truth than to say that in 1868 I "called together in Washington a meeting of American manualists to take action against the new heresy"—the oral method.

In 1867, after a careful examination of the leading oral schools in Europe, I strongly urged in my published report the general introduction of oral teaching, and in the Conference of Principals held in 1868, just alluded to, I secured the unanimous adoption of the following resolutions:

"*Resolved*, That in the opinion of this Conference it is the duty of all institutions for the education of the deaf and dumb to provide adequate means for imparting instruction in articulation and lip-reading to such of their pupils as may be able to engage with profit in exercises of this nature.

"*Resolved*, That to attain success in this department of instruction an added force of instructors will be necessary, and this Conference hereby recommends to boards of directors of institutions for the deaf and dumb in this country that speedy measures be taken to provide the funds needed for the prosecution of this work."

The effect of these resolutions has been to secure the introduction of speech teaching into all the older and larger institutions of the country.

The Milan Congress of 1880 came very far short of settling "forever in Europe the question of how the deaf should be taught;" nor was it a "great Convention."

The teachers from Italy alone controlled the meeting by a clear majority. Italy and France furnished seven-eighths of its one hundred and sixty-four members.

The five American delegates, of which I had the honor of being one, who by a formal vote were the accredited representatives of fifty-one schools, containing over six thousand pupils, were allowed to be outvoted in the proportion of nearly ten to one by the forty-six representatives of the two schools of Milan.

The Milan Congress was a packed body, intensely partisan in its character, and its votes are entitled to no weight whatever in determining the relative merits of the methods that were there discussed.

Throughout Europe, especially in Germany and France, educated deaf-mutes, taught under the oral method, are to-day in great numbers protesting against the insufficiency of the oral method, and are petitioning the authorities to adopt important features of the manual method.

The effects of the "Report of Evidence taken before the Royal Commission in England" have been quite different from what would be inferred from the statements in your article.

The only public institution, so far as I am aware, which has been established in England since the report of the Commission was issued, is the Cross school, at Preston, the authorities of which did me the honor to say they had decided to adopt the American combined system on the strength of the evidence I gave before the Commission, and they informed me further, that they had been offered considerable sums of money by partisans of the oral method if they would make that the sole means of instruction.

Nothing could more utterly misrepresent the state of things in this country in regard to deaf-mute education than the statement that we are "going through the same scientific birth-pangs as did Continental Europe before the 1880 Convention of Milan."

Ever since 1867, when it was first suggested that the education of the deaf could be best carried on under a combined system, which should make use of all approved methods, the schools of this country have been coming to accept that idea. And in 1893, out of eighty-six schools in the United States and Canada, fifty-nine were using some form of the combined system.

In these schools there were seven thousand nine hundred and sixty-six pupils, out of nine thousand and fifty-two in all schools.

The pure oral schools numbered eighteen only, in 1893, with eight hundred and sixteen pupils, and during the present year, in one of them—the school at Portland, Me., with forty pupils, the combined system has supplanted the oral method, after a careful examination by its managers of the methods pursued at the best oral school (that of Northampton) and the best combined system school (that at Hartford) in New England.

In the combined system schools of the United States, speech is successfully taught to more than one-half of the pupils, while a great number of pupils, incapable of mastering speech, are afforded a good education by the use of the manual method. And nothing has been more clearly demonstrated of late years, both in this country and abroad than that the complete education of all the deaf cannot be effected under any single method. Those schools, therefore, which hold to the pure oral method, excluding all others, cannot assume

to meet all the requirements in the education of the deaf as a class.

Respectfully yours,
EDWARD M. GALLAUDET,
President.

"CHRONIC BILATERAL PAROTITIS."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In No. 9 of the last volume of the MEDICAL RECORD I find mentioned, under the above title, two cases of double parotitis, which Dr. Robert Abbe had reported in the April Meeting of the Practitioners' Society of New York. One of the cases had been seen in the practice of Dr. Robert F. Weir, who in the subsequent discussion made mention of another case lately observed by him. As the affection seems to be a very rare one it may not be useless to relate another case of this kind (even though I had not the good fortune to observe it to the end), the more so because this latter case may shed some light on the etiology of the trouble. At the end of February of this year, a young married woman called on me, complaining of a swelling of her eyelids, which had existed for a week. The œdematous swelling was symmetrical, most pronounced in the upper eyelids, but the whole region around the eyes appeared swollen and reminded me of the œdema that accompanies nephritis. There was no pain anywhere. She was not in her usual good health; in fact since the birth of her child, which she was still nursing, she had not regained her former good health. The examination of the eyes revealed nothing that could have explained the trouble; so I sent her with a letter to the physician who had confined her, for a general examination by him. He reported to me that the urine was normal, and in the absence of other symptoms he concluded that the œdema was due to "some trophic disturbance connected with a severe attack of migraine, which patient had had a few days ago." I did not see her again until eight weeks later, when she reappeared for an iritis of her right eye, of one week's standing. I was very much struck by her altered appearance. Both parotids were swollen to the size of a small fist. The swelling involved the whole gland and extended from in front of the tragus down to the angle of the jaw, where it was most prominent. The swelling was very hard, but painless, and hampered somewhat the mobility of the jaw. Patient told me it had appeared one week after her first visit, that is, seven weeks before her second; it had developed rather rapidly, but without pain. She felt very much "run down," and looked very pale. So I had an explanation for the œdema around the eyelids of seven weeks previously; evidently it had been an inflammatory collateral œdema foreshadowing the parotitis; now the parotitis itself demanded an explanation. The iritis was of the plastic variety, not very intense; without the unusual complication I would not have hesitated to consider it as syphilitic and to treat it as such. As it was, one could think of another possibility—metastatic origin of both iritis and parotitis from some malignant growth. I conferred with Dr. Julius Rudisch at that time in charge of the case (he happened to be the third since the beginning of the affection), an internal examination was agreed upon, but it did not reveal anything abnormal, so we decided upon energetic antisyphilitic treatment. The husband of the lady denied any specific affection in his own case, the baby was healthy, too, and, as I may add, has remained so so far; but he mentioned a recurrent skin affection of the hands from which his wife's father had suffered. I did not have the opportunity of following up the case personally, as at this stage the propensity to change doctors asserted itself again. I only know from the family physician that the patient consulted another oculist, whose diagnosis was likewise syphilis. His prognosis, however, of a speedy recovery was not entirely verified, as I was told that neuroretinitis supervened, and it took many weeks of energetic antisyphilitic treatment to cause the disappearance of the swelling of the parotides.

If it had not been for the appearance of the iritis, which pointed to the real character of the trouble, we would have been unable to make the correct diagnosis. I have inquired of a number of colleagues who have a vast experience with syphilis, but none had seen any cases of specific parotitis.

The handbooks on pathology mention syphilis as a possible cause of parotitis. Birch Hirschfeld says: "Parotitis is found as a secondary trouble in various infectious diseases, as in typhoid fever, scarlet fever, cholera, pyæmia. Also in syphilis, especially of congenital origin, parotitis develops."

Ziegler in his handbook expresses himself similarly. Since the above note was written Dr. Robert Abbe has presented his case of chronic bilateral parotitis again in the December meeting of the Practitioners' Society of New York (MEDICAL RECORD, No. 1, 1895, page 24), when the swelling had existed for eighteen months. The opinion of some of the gentlemen present was that it was a symmetrical lipoma.

Through the courtesy of Dr. Abbe I had an opportunity to see photographs of his case (which I have not had a chance to examine personally), and I can only say that the similarity in the appearance of that case to the one described above is striking.

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DR. GIRDNER'S TELEPHONE BULLET-PROBE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In last week's MEDICAL RECORD Dr. H. M. Wells, of the Navy, publishes what he calls an improvement on my telephonic bullet-probe. He says: "Dr. Girdner considers the body of the patient to be a sufficient battery for this purpose, but repeated tests of his instrument in the presence of several surgeons, convinced us that the current was not strong enough." Dr. Wells has reached this conclusion because he has not experimented with my bullet-probe, nor is there one of my instruments in the Navy Department to-day. He bought a number of cheap imitations of my invention some time ago, which unfortunately bear my name, but which are practically useless. I have sent word to Dr. Wells that the instruments he had bought were of no value, and offered to advise him as to the proper way to have them made; I also protested to the instrument-makers who furnished them, but all to no purpose; and I am glad of this opportunity to say publicly what I have often said privately, that so far as any good to the Navy Department is concerned, the money expended for these so-called telephonic probes might as well have been thrown into the ocean. Now, as to his alleged improvement on my instrument by introducing a battery-cell in the circuit. I had to experiment over a period of five years before I could bring the telephonic bullet-probe up to its present condition of absolute precision, and I went over the whole ground of using a battery-cell in the circuit outside the body, as Dr. Wells recommends. It is scientifically impossible to construct an accurate instrument if a battery is placed in the circuit outside the body, for the reason that accuracy depends upon the fact that no current shall pass through the receiver at the surgeon's ear until the probe touches the bullet; and that is exactly what happens in my instrument, and gives a loud response when the receiver is properly constructed, which Dr. Wells's is not. If a battery is introduced into the circuit outside the body, as Dr. Wells suggests, and one terminal, the metal bulb, is placed in the patient's buccal cavity, and the other terminal, which is the probe, is passed into the

track made by the bullet, the merest tyro in electricity knows the circuit will be completed through the intervention of the tissues of the patient's body which lie between the bulb in the buccal cavity and the probe in the track of the bullet, and that a current will pass through the receiver at the surgeon's ear; and as the probe touches tissues of varying density and electrical conductivity, clicking and grating will be heard by the surgeon long before the probe touches the bullet, and will completely deceive him as to its location.

An instrument constructed as Dr. Wells suggests might work in experiments where the lead was simply held in the hand, but would be worse than useless in actual practice.

Dr. Wells says: "In experimenting with Dr. J. H. Girdner's telephonic bullet-probe, I had great difficulty in hearing the ticking when the probe came in contact with the bullet."

I am surprised that he was able to hear anything with the instrument he has. As to Dr. Wells's second improvement, viz., the bullet-forceps to serve both as probe and extractor, I have only to say that a better forceps for the purpose than the one shown in his article, was devised by the Surgeon-General of the State, Dr. Joseph D. Bryant, more than a year ago.

Soon after I had published this invention in the medical press, the Surgeon-General of the United States Army appointed Surgeon-Major John Van R. Hoff, U. S. A., to look into the matter, and make a report to him as to the advisability of adopting it in the service. Dr. Hoff called on me and I gave him every facility to satisfy himself in the matter. As a result of his report the Surgeon-General decided to include the telephonic probe in the regular surgical equipment of the Army. I told Dr. Hoff that the Navy had been unfortunate in getting useless instruments, and showed him one of the kind in use in that service. In order to protect the Army against this, and I think at Dr. Hoff's suggestion, I had carefully prepared drawings of every part of my instrument made, and also, detailed specifications of how they should be put together, etc., and these were placed on file in the Surgeon-General's Office at Washington. Now, when bids on contracts for telephonic probes are advertised for, one of the conditions imposed by the War Department is that the instruments shall accord in every respect with these plans and specifications in the Surgeon-General's Office.

The result of this is that, although there are ten times as many probes in use in the Army as the Navy, there has never been a single complaint about them from Army surgeons that I have known of.

A number of the most distinguished surgeons in this country and abroad have been using the telephonic bullet-probe for the past two years, and have not found the difficulty spoken of by Dr. Wells. One of these gentlemen, whose reputation is international, said in a public address, "I regard this probe as one of the greatest diagnostic means of the nineteenth century."

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THE TYPHOID OYSTER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Now that the oyster has won for itself fame in a new *rôle* as typhoid carrier, I may be allowed to suggest some means by which the dangers may be reduced to a minimum. I have not tried the method myself, but that is no reason why I may not induce others to do so who may be on the look-out for new ideas. If anything comes of it I reserve the right to claim priority by first placing the matter on record, and thus strike while the iron is hot. Therefore I would be pleased to have you publish this article at once, before some others thinking and working on the same subject may anticipate me. If I do say it myself, I think my ideas on the subject will tend to revolutionize the whole subject of bacteriology and open up ways for guarding against microbic infection through our food which have never before been put in practice. My modesty must be excused on the score of earnestness of purpose. I can illustrate my principle by applying it to the oyster.

Now, in the first place, the oyster must not be eaten raw. Aside from cruelty to the oyster it is positively unsafe. Six members of one family under my care contracted typhoid from one large raw oyster which each individual tried in-effectually to swallow in turn. This conclusively proved to me that the juice of the oyster was the sole cause of infection. No bacilli were found in the substance of the oyster save in such lacerated portions as were caused by frantic tooth indentations in efforts at swallowing. Even these were innocent in character and corresponded with those on the only remaining eye-tooth of the grandmother of the family.

These occurrences made a great impression upon my mind, the result of which is a sterilizing procedure which will reduce such dangers to a minimum. Indeed it will apply as a principle in all food-taking. First, then, the oyster, free from slivers, should be sterilized by steam, or boiled for one hour until it is reduced to one-tenth or one-twelfth of its former size. After this it should be enveloped in a sterilized napkin sprinkled with sterilized salt and pepper, smeared with thoroughly baked butter, and eaten with a fork previously heated to redness in a Bunsen's burner. Bacilli seldom light on hot iron, at least not to live long. It is, however, necessary to maintain a high temperature for the fork to be absolutely safe. There is no danger of burning the lips or tongue as the instrument is buried in the oyster, and with a wide mouth and an easy swallow the thing is done, and the fork is then heated again for the next customer.

All these precautions, however, will be useless unless the mouth, naso-pharynx, stomach, and intestinal canal are in a properly aseptic condition. Cavities in the teeth should be previously filled with sterilized wax, the mouth and throat rinsed with carbolized water, and ten minutes before the meal the stomach should be washed with sterilized water and a ten-grain tablet of bismuth naphthol should be taken.

Even then care must be taken to keep the mouth widely open to clear the beard and not to breathe or sneeze during the act of swallowing. Of course all this takes time and trouble, but only "eternal vigilance is the price of liberty" from diseases "which lurk around to hurry mortals home."

Please publish this in your next number, as I notice in a bulletin of our society that a friend of mine, to whom I unwarily communicated my discovery, is announced to read a paper on the subject, and thus with a generous rivalry in doing good to humanity, he is evidently determined to anticipate me.

Respectfully yours,

J. EARLY-HUSTLER, M.D.

POST CORNERS, CAL., December 28, 1894.

Microbes on Books and Tickets.—In his inaugural thesis (St. Petersburg, 1894), M. Trouskoliavski gives the results of his bacteriologic study of books used by hospital patients and of hospital visitors' tickets, as sources of microbic contagion. Microbiologic examination of newly-printed tickets and books revealed no microbes, but a similar examination of tickets that had been used, and of books that had been read by patients, showed an average of forty-three bacteria to the square centimetre. While many of these are innocuous, some pathogenic bacteria are found—streptococci, tubercle bacilli, etc.—and, affixed to the paper surface, these microbes are found to retain their morbific potency for a long time.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 12, 1895.

	Cases.	Deaths.
Tuberculosis	173	111
Typhoid fever	12	7
Scarlet fever	118	24.
Cerebro-spinal meningitis	2	8
Measles	78	3
Diphtheria	225	56
Small-pox	6	1

Charcot, like Gull, physicked his patients very sparingly. If he did not, like Sydenham, recommend students to read "Don Quixote" as a part of their medical education, he thought the works of the so-called "naturalist" school of novel writers useful for other purposes. He used to prescribe certain chapters of Zola as the surest emetic known to him; other works of the same master and his disciples were in his opinion valuable as narcotics. He used to say the best shop for narcotics was at Medan (where the author of "Nana" lives); there an infallible "drowsy syrup" could always be got for 3.50 fr. To a student who, after a lecture in which erotomania had been touched upon, asked what was the best remedy for incontinence, Charcot replied, "anæmia—or better still, apoplexy." As regards anaphrodisiacs, the only one he had any confidence in was that used by the uncle of Heloïse in the case of Abelard. *Cela* (he would add with a grim smile) *tranche la difficulté.*

The Parts that do not Grow Old.—In his work on the senile heart Dr. Balfour tells us that there are two parts of the human organism which, if wisely used, "largely escape senile failure." These two are the brain and the heart. Persons who think have often wondered why brain workers, great statesmen, and others, should continue to work with almost unimpaired mental activity and energy up to a period when most of the organs and functions of the body are in a condition of advanced senile decay. There is a physiological reason for this, and Dr. Balfour tells us what it is. The normal brain, he affirms, "remains vigorous to the last," and that "because its nutrition is specially provided for." About middle life or a little later, the general arteries of the body begin to lose their elasticity and to slowly but surely dilate. They become, therefore, much less efficient carriers of the nutrient blood to the capillary areas. But this is not the case with the internal carotids, which supply the capillary areas of the brain. On the contrary, those large vessels "continue to retain their pristine elasticity, so that the blood-pressure remains normally higher than within the capillary area of any other organ in the body. The cerebral blood-paths being thus kept open, the brain tissue is kept better nourished than the other tissues of the body." Who is there among those who have reached or passed middle age that will not be rejoiced to find such admirable physiological warrant for the belief that the brain may continue to work, and even to improve, almost to the very last hour of life?

A Means of Preserving Urine for Analysis.—It occasionally happens that the busy practitioner is obliged to defer analysis of a specimen of urine until decomposition has rendered it valueless for his purpose. Dr. Huguet, professor at the Medical School of Clermont-Ferrand, states that urine can be kept for an indefinite period if to the contents of the vessel there be added 2 c.c. of the following solution: Mercuric cyanide, 10 grammes; water, 100 grammes. The addition of this salt does not alter the acidity of the urine, nor does it invalidate the results of the analysis. Chloral, which is often used to preserve urine, is said to interfere with the ordinary sugar tests.

Dry Surgery in Germany.—The American practitioners and students of medicine who have been trained to look upon irrigation as essential to the aseptic handling of wounds in their after-treatment, are always quite astonished at the apparent disregard the German surgeons seem to have for this method of securing good results. While in Göttingen, I was present every day at the surgical policlinic held daily by Professor Rosenbach, and I do not believe I saw a drop of water or other irrigation fluid used during the whole time. The patient is brought in, the dressings removed, the wound examined, squeezed lightly, oozing pus, is wiped off and dressings, dry or wet as may be necessary, are reapplied. Even in the treatment of deep abscesses, or where neurotic processes are going on, irrigation is never resorted to, the surgeon seeming to have all faith in his drainage-tubes without resorting to the stream of bichloride water as used by our American surgeons. They probably get just as good results here in Germany as we do in the United States, but their methods of wound-handling are certainly not so cleanly as those used in the latter country. — Berlin Correspondent of the *Memphis Medical Monthly.*

The Era of Dispensaries.—The history of English dispensaries has still to be written. It will form as interesting a volume as the story of the rise and fall of the private medical schools. Sir Samuel Garth may be looked upon as the first founder of dispensaries, for he promoted the erection of an apartment in the College of Physicians for the relief of the poor, by giving them advice gratis and dispensing medicines to them at low rates, as early as 1699. It was not until the last third of the eighteenth century, however, that they became really fashionable under the influence of Dr. Lettsom, physician and philanthropist in the truest sense. They were established for the relief of those who were too poor to pay for ordinary medical advice, and were yet not poor enough to accept gratuitous hospital treatment. The example set in London soon spread far and wide, so that the latter years of the eighteenth century may be known as the dispensary epoch in medicine, just as the present time is the special hospital epoch. Similar motives, no doubt, contributed to the foundation of both sets of institutions. In many cases it was a sincere desire to benefit the more deserving of the poorer class, but in many cases they were founded to the glory of an individual. The more worthy in each case have survived, but, by a process of natural selection, even they are becoming reduced in numbers. The records of one of the best of these institutions has just been written by Mr. Poland, with the laudable object of adding to its funds; and it would be well if the officers of other dispensaries would act upon the hint, and devote such leisure as they may have to a furtherance of the charity with which they are connected, by adding to its funds and writing its history.—*British Medical Journal.*

The Centenary of the Discovery of Vaccination.—The directors of the German Vaccine Institute are arranging a festal celebration, to be held in 1896, in commemoration of Jenner's discovery of vaccination. It will take place on the occasion of one of the annual meetings of medical men. In connection therewith there is to be an exhibition of old and new vaccine instruments, of apparatus for the preservation of lymph, etc., original manuscripts on small-pox and vaccination, on the inoculation of sheep-pox and cattle plague in pre-Jennerian days, of squibs on vaccination, medals, portraits, and autographs of prominent inoculators, vaccinators, anti-vaccinationists, etc. Persons willing

to lend objects for exhibition are requested to communicate with Geh. Med. Rath. Dr. L. Pfeifer, President of the Vaccine Institute of the Grand Duchy of Saxony, at Weimar.

Paris Students.—In the Faculté de Médecine at Paris there are 1,002 foreign and 4,142 native students; 195 of these students are women, of whom but 26 are French.

An Academy of Medicine in Washington, D. C.—A society of this name was formed at a meeting held on the 10th ult. After much discussion it was decided that it would not be successful if the Academy met in rented quarters, so the only plan which suggested itself as feasible was to procure from thirty doctors $300 each, in $100 yearly payments, with which the building suitable for the purpose was to be purchased and furnished. Many meetings looking to an organization were held, and all but one or two of the requisite number of subscribers secured; a constitution was adopted, and all seemed well until the advent of summer, when the enthusiasm died out and the matter was dropped. The meeting held on the 10th ult. was for the purpose of endeavoring to rescue the Academy, and as the other efforts had failed it was decided to raise only sufficient funds to rent a suitable hall and to furnish it. Temporary officers were elected until January 1st as follows: *President*, Dr. T. L. McDermott; *Vice-President*, Dr. F. C. Simpson; *Secretary*, Dr. J. L. Howard; *Treasurer*, Dr. J. M. Ray. A commodious hall has been rented in the Columbia Building, on the sixth floor; it will soon be furnished, and it is to be hoped that the profession at large will take an active interest in the movement.—*Journal American Medical Association.*

What Hot Springs and Hot Baths Will Do.—The United States Government has established a hospital at Hot Springs, Ark., for the treatment of soldiers and officers of the army. The hospital is now under charge of Surgeon Alfred A. Woodhull, who issues through the adjutant-general's office this circular; "Relief may reasonably be expected at the Hot Springs in the following conditions: In the various forms of gout and rheumatism, after the acute or inflammatory stage; neuralgia, especially when depending upon gout, rheumatism, metallic or malarial poisoning; paralysis, not of organic origin; the earlier stages of locomotor ataxia, or tabes; the early stages, only, of Bright's disease; diseases of the urinary organs; functional diseases of the liver; gastric dyspepsia not of organic origin; chronic diarrhœa; catarrhal affections of the digestive and respiratory tracts; chronic skin diseases, especially the squamous varieties; and chronic conditions due to malarial infection. . . . The Hot Springs water is contraindicated in all acute inflammatory diseases, tuberculosis, organic disease of the heart or brain, cancer and other malignant disease, aneurism, and all cases where stimulation of the circulation is to be avoided."

This seems to be a temperate statement of what hot water copiously taken, combined with proper hygienic surroundings, will do at Hot Springs, and we would add, at any place where pure water is supplied in abundance and at various temperatures.

Post-Mortem Parturition.—A remarkable case illustrative of this very rare occurrence, says *The Lancet*, is reported in the *Derbyshire Times* of October 30th, as having happened at Chesterfield. A single woman, aged twenty, who, as the event proved, was pregnant and nearly or perhaps quite at term, was seized with puerperal convulsions, and died undelivered. Apparently the fact of her pregnancy was unknown to those who were living in the house with her, and, indeed, a succession of fits seems to have given rise for a time to some suspicion of strychnine poisoning, a suspicion which subsequently was shown to be altogether without foundation. Now comes the remarkable part of the case. Two women who laid out the body in the customary manner, swore most positively that when they did so there was no sign of a child to be seen, nor any signs that would have led them to suppose the dead woman had been recently confined. It was decided to hold an inquest; and Dr. Green received the coroner's order to make a post-mortem examination. When he lifted the sheet which covered the body he found the body of a fœtus, at or near full time, beside the woman's body, and still remaining in connection with the placenta and uterus. There was an inversion of the uterus; there was also enormous distention of the abdomen. The woman had died on a Thursday morning, and the post-mortem examination was held on the Saturday afternoon, two days after the death. It might have been supposed that for some reasons of their own the women who laid out the body had determined to conceal the fact that there was a child's body there at the time as well as the mother's; but there seems no reason to doubt that they were speaking the truth, as, although the occurrence of parturition after death is exceedingly rare, still a sufficient number of cases are recorded to place the possibility of its occurrence beyond dispute. Thus, in a paper read by the late Dr. Aveling before the Obstetrical Society of London, forty-four such cases are referred to, and some particulars are given of thirty of these cases. The rarity of the occurrence, however, is shown by the fact that twenty-three of the thirty cases have had to be sought for in records previous to the beginning of the present century.

The First Meeting of the Association of Superintendents of Southern Hospitals for the Insane was held in Birmingham, Ala., November 20th, with Dr. J. T. Searcy, President, in the chair.

BOOKS RECEIVED.

LEHMANN'S MEDICIN. HANDATLANTEN. Band VII. Atlas und Grundriss Ophthalmoskopie und Ophthalmoskopischen Diagnostik. 12mo. Illustrated. Von Dr. O. Haab. Published by J. F. Lehmann, Muenchen.

THE DISEASES OF CHILDREN AND THEIR HOMŒOPATHIC TREATMENT. By Robert N. Tooker. 8vo, 813 pages. Published by Gross & Delbridge, Chicago, Ill.

THE PRINCIPLES OF SURGERY AND SURGICAL PATHOLOGY. By Dr. Hermann Tillsmanns. Translated from the Third German Edition by John Rogers, M.D., New York, and Benjamin Tilton, M.D., New York. Edited by Lewis A. Stimson, M.D. 8vo, 800 pages. Illustrated. Published by D. Appleton & Co., New York City.

DISEASES OF THE EAR. By Edward Bradford Dench, Ph.B., M.D. 8vo, 645 pages. Illustrated. Published by D. Appleton & Co., New York City.

THE VACCINATION QUESTION. By Arthur Wollaston Hutton, M.A. 12mo, 120 pages. Price, 1*s.* 6*d.* Published by Methuen & Co., London, England.

OBSTETRIC SURGERY. By Drs. Egbert H. Grandin and George W. Jarman. 8vo, 207 pages. Illustrated. Price, $2.50. Published by the F. A. Davis Co., Philadelphia, Pa.

HIGHER MEDICAL EDUCATION. By Dr. William Pepper. 8vo, 100 pages. Price, $1.00. Published by J. B. Lippincott Co., Philadelphia, Pa.

THE DISORDERS OF SPEECH. By Dr. John Wyllie, Edinburgh. 8vo, 495 pages. Illustrated. Price, 18*s.* Publishers, Oliver & Boyd, Edinburgh.

TRANSACTIONS OF THE COLORADO STATE MEDICAL SOCIETY. Twenty-fourth Annual Convention. By-laws and List of Members. 8vo, 486 pages. Denver, June, 1894. Published for the Society.

DISEASES OF THE BREAST. By W. Roger Williams, F.R.C.S. 8vo, 572 pages. Illustrated. Price, 21*s.* Published by John Bale & Sons, London, England.

HAHNEMANN'S THERAPEUTIC HINTS. By Dr. R. E. Dudgeon. 8vo, 59 pages. Publishers, F. Gould & Son, London, England.

DIFFICULT LABOR. By G. Ernest Herman, M.B., Lond., F.R.C.P. 8vo, 443 pages. Illustrated. Publishers, William Wood & Co., New York City.

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Original Articles.

ACQUIRED IDIOSYNCRASY FOR QUININE, SHOWING PECULIAR CUTANEOUS MANIFESTATIONS.[1]

BY CHARLES W. ALLEN, M.D.,

NEW YORK.

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THE skin eruptions which follow the use of the cinchona barks and their derivatives possess a double importance from the wide-spread employment of these drugs and their consequent liability to occasion frequent rashes, and the fact that, although the literature of the past ten years, at least, is not lacking in reports of cases, many of them show that the drug had either been persisted in for some time after the skin manifestations have appeared, through ignorance of their nature and cause, or else that it has been administered for a second time, and then only when the same eruption showed itself again has its origin been suspected.

It is for this reason that I venture to consume a little of our time in the report of a case possessing, it seems to me, some features of interest; and I hope the discussion will aid in the elucidation of some points which we must admit are unsettled, concerning the action of the drug in producing those phenomena with which we are familiar.

All of us have seen instances of pruritus due to quinine in which no exanthem shows upon the surface. I can recall a number of cases in which this tendency manifested itself in more than one member of a family; thus, a father and daughter, a mother and son, will have the same peculiarity, and I have repeatedly had patients tell me they could not take quinine, nor could one or the other parent before them.

The most frequent form of eruption resulting from quininism is probably the scarlatinoid, an erythematous rash beginning usually upon the face, and subsequently extending over the whole surface. Other usual forms are the urticarial and papular, while the vesicular, bullous, and purpuric are less frequently encountered; and last of all come the gangrenous forms. Dr. Van Harlingen, in his interesting and instructive paper on "Medicinal Eruptions," read before this Association in 1880, says that in exceptional cases the eruption may not become generalized, and Dr. Morrow uses the same words in his well-known monograph, in which is incorporated a paper written by himself, also in 1880; both agreeing that the erythematous is the prevailing type of eruption. Dr. Morrow found thirty-eight out of the sixty cases analyzed to belong to this variety.

The case I now report differs from the majority of those found in literature (1) in that the eruption occurred in a subject who had previously always been able to take quinine in moderately large doses (gr. v. to gr. xv.), and had never before suffered in any way from its use. (Dr. Morrow refers to this acquired idiosyncrasy in a case of his own.) (2) In that the eruption is developed by a smaller quantity of the drug than I have been able to find recorded in any other previous observation. (3) In that the lesions are local and show no tendency to spread or to become generalized. (4) In that the location of individual spots is always the same, no matter what the dose. (5) In that the eruption was produced four times accidentally, and some fourteen times experimentally. (6) And finally, in the fact that varying with the dose, and possibly with other unknown conditions, the lesion, which is always primarily, and usually solely, erythematous, may become urticarial, œdematous, bullous, covered over with small vesicles, or converted into an excoriated patch. In other words, the simple, rosy erythema of one attack may closely simulate in another an erythema exudativum multiforme. The amount of irritation in one case being, it would seem sufficient to produce only a dilatation of the vessels and redness of the skin, while in another an exudation takes place which may either show itself as an œdema, or if fluid is poured out between the corium and epidermis, the latter may be raised into a bullous sac, or numerous small vesicles may spring up to stud the surface. A greater intensity of action, or the same degree exerted upon delicate parts, such as the prepuce in this instance, may cause rapid shedding of the epidermic layer, and leave exposed a tender, excoriated, and bleeding area.

In 1889 the subject of this sketch, while suffering from toothache, took a five-grain dose of the sulphate of quinine at bedtime. During the night there was decided general pruritus, and in the morning large, round erythematous blotches were found upon the backs of the hands, inner surface of the thighs above the knees, dorsum of the foot, glans penis and prepuce, as shown in the drawing on p. 99. With the exception of a blotch upon either side of the spinal column, opposite the third or fourth dorsal vertebra, the size of a fifty and a twenty-five cent piece, respectively, these were the only regions in which spots appeared in this or any subsequent attack. Having suffered from urticaria on two previous occasions from eating clams, the idea of this eruption being of the same nature was suggested to the man's mind, and not suspecting the drug, which he had often taken before in larger quantities, the dose was repeated. The symptoms became more pronounced, and by the next morning, when I saw the eruption, the prepuce presented two large, oval excoriated surfaces, which became in a few days so suggestive of large chancroids that a colleague, to whom they were shown, suspected at first that this was really their nature. The rest of the region of the glans and prepuce was intensely red and sensitive. From the history (for I had never before seen just such an eruption from the drug) I made the diagnosis of exanthem due to quinine, and ordered its use discontinued. In about a week the spot began to desquamate, and continued to fade in color while peeling for about ten days longer. On July 2, 1890, again suffering from neuralgic pain in the teeth, patient took one "Mousette" pill, not knowing or not remembering that it contained quinine (about one grain). Within twelve hours itching, burning, and prickling sensations began, and the same spots as in the first instance showed themselves. Two days later the whole prepuce was excoriated as after a blister, and there were digestive disturbances. On July 6th the skin over the first phalanx of the little finger on the right hand was tender and looked like a burn. On the 9th the glans penis would bleed when irritated, while the prepuce was in a healing condition. By the 12th desquamation was

[1] Read before the American Dermatological Association at its Eighteenth Annual Meeting.

progressing in the various blotches. Again, in this same year, a cordial glassful of "Bougeaud" coca wine was taken and the same condition followed, though in a less pronounced way. The quantity of the drug must in this instance have been exceedingly small.

On August 18, 1891, patient took, in a drug store, a little elixir of calisaya with Vichy, the equivalent of quinine not exceeding one-third grain. Half an hour later well-recognized tinglings brought a realizing sense of the inadvertence. Within a few hours the spots had appeared, and the glans penis was encircled as by a ring of redness. There was no elevation of temperature. Two days later there was a bulla upon the little finger raised one-quarter of an inch above the niveau. Over some of the other spots were scattered miliary vesicles, and some spots showed enclosed rings resembling erythema iris. The bulla was pricked, and the serum allowed to flow off. The wall dried down into a waxed-paper-like scale. The skin beneath this was tender, and desquamation was repeated several times before the redness disappeared. Glans penis and prepuce became denuded of epithelium, and glans desquamated after healing had taken place. Thus it is seen that four times an eruption very similar in kind and degree followed the ingestion of quinine in varying quantity. Three times it may be said to have been accidentally taken after the first had demonstrated the idiosyncrasy.

In order, if possible, to clear up some of the things which are still unsettled concerning quinine eruptions, I now undertook a series of experiments with the cooperation of so favorable and, as he proved, willing a subject.

The statement has been made and repeated that it is the acid, and not the base, which is the offending substance in these cases, and that the individual who breaks out after the sulphate can take the citrate, for example, with impunity. To determine this point, at least so far as this case was concerned, and at the same time to test the efficacy of the tannate of quinine, which has been accused of being an inert preparation, I gave one chocolate tablet containing one grain of tannate, such as are prepared for children.

In exactly two hours a decided pruritus, tingling, and burning began to be felt in the region of the prepuce. This was found on inspection to be of a bright scarlet, as was also the glans penis. Stinging points were noted in the habitual regions, especially in the interscapular area. Scarlet blotches followed shortly in all of the usual situations. During the following day some of the hyperæmic patches became noticeably raised above the surface and somewhat œdematous, pitting upon pressure, while others were tender to the touch, and, as noted before, felt and looked like burned spots.

Allowing abundant time for the full effect of each exhibition of the drug to wear off, I tried in succession the hydrobromate or bromide of quinine in dose of one-quarter of a grain; the hydrochlorate, the bisulphate, dextro-quinine, and the bimuriate with urea (a soluble product for hypodermic use going under the name of quinine carbamide), all in the same dose. These were invariably followed by the same manifestations I have described, and when taken in connection with the recorded instances of eruption from the various other preparations, including the citrate, I believe the claim of Giampetro and others, that the acid and not the base is at fault, cannot stand.

Our next attempt was to find out whether the drug might not, by circulating through the lymphatics, be brought into contact with certain nerves of the skin or terminal nerve-filaments, and produce in them a local effect. To test this a tight band of adhesive plaster was bound about the wrist of the right hand so as to make decided pressure, and a dose of hydrochlorate of quinine was administered by the mouth. Despite this constriction, kept up for the whole of an afternoon, the spots appeared upon both hands as usual, and a little earlier, if anything, upon the right than upon the left. This experiment was repeated a month later by applying the constriction to the forearm, and after the hand was cyanotic injecting into the skin and subcutaneous tissues, between the hand and the band, one-quarter grain of the carbamide in solution. The effect of this was to produce after ten minutes an anæsthetic area the size of a fifty-cent piece, with slight and transient œdema, leaving behind an infiltrated condition of the skin with numbness of the whole back of the hand. For two days the site of injection was tender and the arm had a slightly lame feeling, but no erythema or eruptive signs of any kind appeared at the site of injection. The injection was made at noon, and at 12.20 the itching began to be felt in the prepuce. At 12.45 there was slight earache, a symptom noticed once or twice before shortly after a dose had been taken. At 5 P.M. the erythema began to appear on the prepuce and right hand, and at 8 P.M. on the left, followed by spots in the other usual locations.

On another occasion $\frac{1}{100}$ grain of the hydrochlorate was injected into the skin of the right arm, and an equal quantity into the hand at the site of one of the erythematous blotches, but aside from what might be expected from the injection of the same amount of water, there was no effect. I therefore came to the conclusion from these trials that the drug was incapable of acting in a local way, and that its action could not be confined to a given region, or prevented from entering this region by mechanical compression of the superficial vessels and lymphatics. They also showed that the theory of reflex dilatation of the vessels in the skin from stimulation of the sensory nerves of the stomach was not applicable here, unless we presume that enough of the drug is carried by the circulation to the gastric mucous membranes, when injected beneath or into the skin. But why should we presume that there would be primary irritation of the stomach nerves, if we are unable to produce this effect upon the skin nerves?

To test the effect upon mucous surfaces, one-quarter grain of the carbamide in solution was held by the patient in his mouth for fifteen minutes. No local effect of any kind was noted, and no general effect for six hours, when erythematous spots appeared in their old locations near the left knee, on the dorsum of the left foot, and upon the right little finger. These spots faded after two days and no others appeared. After some days the same quantity of the same preparation was made into a suppository with cocoa butter, and introduced just within the sphincter ani, where it was allowed to melt. No local effect whatever, but the general symptoms followed in quite a pronounced way after five hours, and the spots did not entirely fade for two weeks. If we consider the effects in these instances as reflexes from irritation of the digestive tract, should we not expect a rather quicker result than when we inject the drug into the skin? Such was, however, not found to be the case. To test the possibility of local effect from inunction, I had prepared an ointment containing two grains of the hydrochlorate in a small quantity of lanoline and lard. This was rubbed into the back of the patient's right hand for fifteen or twenty minutes. No local effect was appreciable, but about six hours later a distinct erythema of the corona glandis and prepuce appeared, with the attending pruritus, and lasted twenty-four hours. There was also irritability about the neck of the bladder, with frequent calls to urinate, and two days later a herpes præputialis developed, causing further trials to be postponed. The herpes was not looked upon as a direct effect of the quinine, but it was thought that it might be referred indirectly to it through the bladder symptoms. Patient stated that in former years he had been troubled with frequent attacks of herpes, but for six or eight years did not remember to have had it.

Although I am quite well aware that quinine in susceptible subjects often causes vesical irritation, I did

not lay great stress upon this instance, from the fact that this patient had often suffered in a similar way when he "catches cold," and when no quinine had been taken; and, on the other hand, in most of the eruptive attacks the bladder function had not been interfered with. Some time after the herpes had healed, four grains of the muriate, in ointment, was again rubbed into the hands for twenty minutes at bedtime. In the early morning there was thickening of the skin of the prepuce, redness extending over the whole glans, irritability of the bladder, and frequent urination, continuing for thirty-six to forty-eight hours, also slight sciatica-like pains in the right leg. The effect upon the hands was slight, the little finger being more affected than other parts, desquamation taking place several times in succession. There was no evidence that any local action had resulted from the inunction. I now became convinced that the vesical irritability did proceed from the quinine absorbed by the skin. Cases in literature show that this effect is recognized, and that hæmaturia even may be occasioned, just as it may be cured, by quinine. This may be homœopathic in principle, but the dose necessary for this result is usually far from being one of homœopathic proportions. Still, with the view of testing skin absorption, I had the man apply to the scalp with moderate friction a drachm of an alcoholic solution containing one grain of quinine. Twelve hours later there was erythema of the glans and upper surface of the prepuce, with decided tingling and burning, but no local change on scalp which could be charged to the drug. Subsequent daily applications of half this quantity did not seem to increase the intensity of the original effect.

This completes my observations in the case, but I have purposely omitted till now the mention of a symptom to which I am inclined to attribute some importance in determining the manner in which quinine may act in the production of cutaneous eruptions.

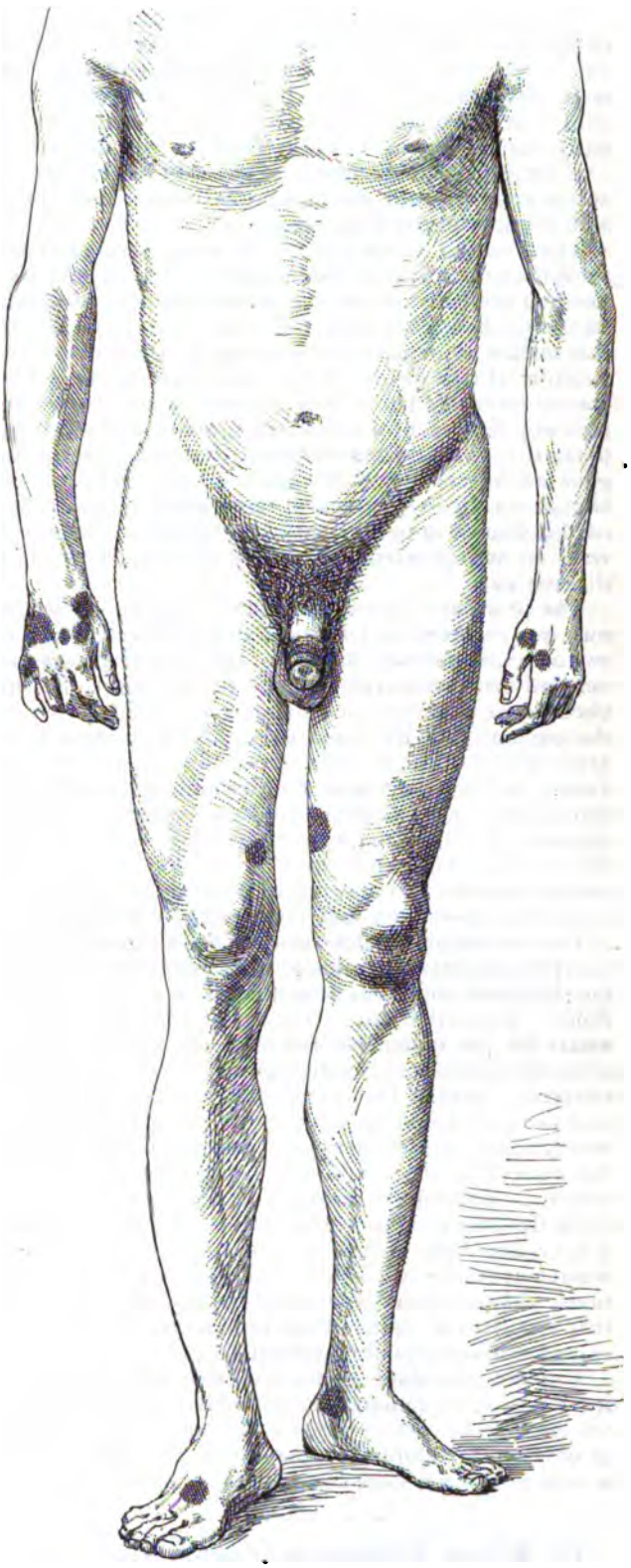
In the first and second attacks, in that brought on by the hydrobromate three years later, and in the last outbreak after rectal administration of the drug, complaint was made of a dull ache in the interscapular region. This was more pronounced in the early attacks. Examination on repeated occasions showed the undoubted existence of marked tenderness on pressure over the spinous process of the second dorsal vertebra. This tenderness would disappear as the eruption faded, and was never to be found in the intervals of quinine eruption.

Now, upon this symptom, indefinite as it may be, I pivot my proposition, or, may I say better, supposition, that the eruption is due neither to a pathological reflex direct from the digestive tract; nor to a direct effect upon the peripheral nerves; nor to the irritation produced locally upon the skin in the process of elimination of the drug by the glands; nor to its action as a protoplasmic poison upon the capillary vessels; but, on the contrary, to an angeio-paralysis of central spinal origin. Whether the drug undergoes chemical change before it is capable of producing these effects, I am unable to say, but from the rapid onset of pruritus I would argue that it acted in its unchanged state.

It is well known that quinine is eliminated by the sweat-glands as well as by the kidneys, but the constant symmetrical distribution, and circumscribed features of the eruption in this case, it seems to me, are much more rationally explained on the theory of nerve origin.

Again, in support of this we have an effect prolonged much beyond what one would expect from the irritation due to elimination. We know that quinine can be detected in the urine within ten minutes of its hypodermic injection, and that it may be found here for several days; but presuming the elimination by way of the skin to be likewise protracted, it would scarcely account for instances in which an active stage of eruption or apparent exacerbations continue for several weeks after the drug is withdrawn. If we invoke the direct local action of the drug upon the bladder-wall, for instance, to account for vesical irritation, we must presume that the drug has undergone some change in the system, since simple contact with mucous membranes, as I have shown, produces no irritation or local effect.

I cannot agree with Bouvard that skin elimination



explains all the eruptions, as he claims, excepting that of purpura, which may have its source in the action of the drug upon the blood and tissues.

That hyperæmia of certain regions follows a moderately full dose is shown, for example, by observing the ear-drum or the fundus of the eye; the fulness of the vessels indicating a corresponding intra-cranial effect. That the cerebral circulation is quickened is shown by

the exhilaration often secured by a comparatively small dose. Thus I have as a patient a reverend gentleman who is in the habit of taking two or three grains of quinine upon starting for church. The beautiful choice of words and eloquence of the sermon make the ears of his hearers fairly tingle, and not one of his congregation dreams that their tinnitus is produced by the preacher's cinchonized words.

Full doses, too, as is well known, will cause dilatation of the pupil similar to that from belladonna. These effects may all originate in the nerve-irritation. In large doses, Chapron says, the reflex function of the cord is lessened and ultimately abolished; and Wood has pointed out that convulsive attacks may follow.

If large doses can produce such marked results by acting upon the cord, why is it not rational to refer these skin changes to the same source?

The analogy which certain of these quinine eruptions bear to urticaria and circumscribed œdema, depending probably on innervation disturbances, must not be overlooked, especially the angeio-neurotic œdema that occurs in subjects of urticaria who are distinctly neurotic or give history of neuralgic attacks, etc. The vaso-motor disturbance here, as well as in certain quinine eruptions, is probably first spasmodic and secondly paralytic. I would also mention the somewhat analogous condition of symmetrical œdema and other trophic changes in the extremities, in those states in which the cord is known to be the seat of pathological change—I refer to syringomyelia, Morvan's disease, Raynaud's disease, etc.

The only case I have been able to find similar to my own was reported by Dr. Munn in the *Atlantic Medical and Surgical Journal*, in 1879. His patient always developed bright-red erythematous patches upon the left cheek, nose and chin, the palmar aspect of the left wrist, the back of the left hand over the carpo-phalangeal articulations of the fourth and fifth fingers, and the left knee. In his case, however, doses ranging from five to thirty grains were required, and the eruption only developed after the drug had produced its full effect on the system. The tendency ceased after an attack of pneumonia and did not return, thus showing that the acquired idiosyncrasy may fortunately be lost again.

I do not wish to enter into the matter of treatment, excepting to draw attention to what might be a misleading statement under this head in Morrow's "Drug Eruptions." The author says, "Treatment is hardly ever necessary for the cutaneous disorders caused by quinine, since they spontaneously disappear on withdrawal of the offending agent. This might lead to the supposition that the rash would be gone the day after the quinine was stopped, whereas several weeks may elapse before the activity of the eruption and pruritus have ceased entirely. Indeed, the eruption may not even appear until after the drug has been withdrawn for some time. I have also been unable to verify the statement that women are more susceptible than men to quinine eruptions. My personal experience has led to the opinion that sex plays no part in their production, and that the cases are about equally distributed.

If there is anything in this theory of spinal irritation, it may have an importance not only as bearing upon the etiology of certain obscure skin affections, but also as offering a possible explanation of the way quinine acts in producing some of its therapeutic effects.

The Medical Profession in Glasgow.—The *Medical Press* says that a certain section of medical men in Glasgow are simply traders in corn-plasters, pink pills, snuff, tobacco, tooth-brushes, pomades, and the like, and that there is a lamentable absence of *esprit de corps* and self-respect among a certain class of practitioners in Glasgow. It is difficult, our contemporary adds, to acquit the Faculty there of a share of the responsibility for this condition of things.

ON THE SURGICAL TREATMENT OF UTERINE FIBROIDS, WITH THE REPORT OF TWO CASES OF SUCCESSFUL ABDOMINO-UTERECTOMY.[1]

By WINSLOW ANDERSON, M.D., M.R.C.P. Lon., Etc.

ADJUNCT TO THE CHAIR OF THE PRINCIPLES AND PRACTICE OF MEDICINE, UNIVERSITY OF CALIFORNIA MEDICAL DEPARTMENT, ETC.; EDITOR OF THE PACIFIC MEDICAL JOURNAL.

The frequency with which fibroids invade the uterus has not been determined. Fritsch states that nearly every tenth woman has one or more fibroid tumors of the uterus. Bayle claims that fibroids occur in thirty per cent., and Kolb asserts that uterine fibroids occur in fifty per cent. of women over fifty years of age.[2] All of these estimates of the frequency of uterine fibroids are much too high, according to my own experience.

When Should We Operate on Uterine Fibroids?—There was a time, within the memory of living gynecologists, when uterine fibroids were regarded as wholly benign and almost sure to cease growing, if not to diminish in size, after the menopause. Contemporaneous with these views of twenty-five or more years ago, the mortality of abdominal hysterectomy was eighty per cent. These considerations had an important bearing on the question of when to operate for uterine fibroids. Now that the mortality has been reduced to one or two per cent., and it is known that uterine fibroids frequently cause the death of the patient either from repeated hemorrhage, exhaustion, pressure, renal complications, malignant or necrotic degeneration of the fibroid itself, and that oftentimes the tumors do not cease growing with the menopause, etc., the views regarding early operations have materially changed.

Martin, of Berlin, records 196 cases of fibromata in which 38 were found to have undergone retrograde changes.[3] In 205 cases of entirpation of myomatous uteri, Martin found 9 cases which showed carcinomatous, and 6 cases sarcomatous, degeneration. Leopold claims that fibromata may become fibro-sarcomata, and in one of his cases he observed carcinomatous formation within the myoma. Erendorfer holds that the mucose of a fibroid uterus may become carcinomatous.[4] Emmet states that in several instances under his observation fibroids underwent sarcomatous metamorphosis. Professor Klebs and Sir James Y. Simpson mention several similar cases.

I would advise the removal of uterine fibromata whenever they cause any of the following symptoms: 1. Severe menorrhagia or metrorrhagia. 2. Severe pain from pressure. 3. Repeated attacks of pelvic peritonitis. 4. Malignant or necrotic degeneration. 5. Size of tumor so large as to interfere with the patient's movements and usefulness. 6. Cystitis, dysuria, hydronephrosis from pressure on the ureters, severe hæmorrhoids, varicosities of the lower extremities, uncontrollable reflex nervous and nutritive disturbances. 7. Repeated miscarriages, tubal and extra-uterine pregnancies, and where the tumor seriously complicates the labor.

In these cases I believe operation is imperative, whether the tumor be the size of a walnut or as large as a fœtal head. To allow these symptoms to continue from month to month and from year to year, in the vain hope that the menopause will bring about a desirable result, is merely to reduce your patient's strength and remove her chances of recovery. To wait for a fibroid to grow to the size of a child's head before its removal, may mean the death of your patient either before or immediately after the operation. Dr. Irish records, in the *American Journal of Gynecology and Obstetrics* for December, 1894, ninety-four cases

[1] Read before the San Francisco Gynecological Society, December 20, 1894.

[2] Woman's Medical Journal, November, 1894.

[3] J. C. Irish in American Gynecological and Obstetrical Journal for December, 1894.

[4] Woman's Medical Journal, November, 1894.

of fibroids, in which forty-three of them "developed dangerous and formidable symptoms, in patients between the ages of forty-two and fifty." Calcareous, necrotic, pus-forming, cystic, sarcomatous, and carcinomatous degeneration may occur while waiting for the *vis medicatrix naturæ*. Abdominal surgeons are agreed that the dangers of the operation increase *pari passu* with the size of the tumor, the age of the patient, the reduction of her vitality, and the nutritive disturbances, etc., and that fatal cases are usually the neglected ones. Repeated severe hemorrhages, attacks of inflammation and adhesions, salpingitis, ovarian degeneration, incarceration of the tumor, in the pelvis, pressure on the ureters, hydronephrosis, extra-uterine pregnancy, degeneration of the tumor or malignant new-formation, are symptoms and complications that are apt to arise at any time; nevertheless, as Dr. Cushing, of Boston, said in a recent article, "Grim and lamentable cases still occur too often where, either from timidity on the part of the patient, or from bad advice and mistaken ideas on the part of her medical adviser, the time for favorable operation has passed by. The chances of recovery have been cruelly thrown away by miserable delay and worse than useless treatment, until the patient is delivered to the surgeon sinking under her burden, a subject for the hazardous and gruesome operation, and likely then to die, leaving grief to the friends, blame to the surgeon, and discredit to the profession."

Methods of Operation.—The following are the methods of operation for uterine fibroids, which are in vogue at the present time:

1. Vaginal Ligation of the uterine arteries, as practised by Franklin Martin, of Chicago, may, in some cases, be productive of good results by limiting the blood-supply of the tumor.

2. Removal of the Uterine Appendages, as advocated by Lawson Tait, Hegar, and others, establishes an artificial menopause and does no doubt, at times, limit the growth and prevent uterine hemorrhage. It is difficult, however, to comprehend why this operation should accomplish more than the natural menopause does, and as we know that in many cases the tumor continues to grow after the climacteric, it would seem that if more radical means were at the surgeon's command, it were better to avail one's self of them and avoid the grave dangers of a second operation, or those of malignant or necrotic degeneration of the tumor. A fibroid uterus left in the pelvis without the support that the appendages naturally afford, is also very apt to produce prolapsus, retroversion, and constant pain and annoyance.

3. Myomectomy, or the removal of the tumor, leaving the uterus *in situ*. This operation is applicable to submucous and subperitoneal fibroids. It is an easy and a safe operation, and should always be done in suitable cases. In the submucous variety the os is dilated and enucleation is accomplished per vaginam, by the finger or the snare, followed by the intra-uterine douche and iodoform gauze-packing. The subperitoneal variety can at times be removed per vaginam, although usually a cœliotomy will be required. Martin, of Berlin, uses a continuous catgut suture to reunite the peritoneal covering of the tumor. This, I believe, is of importance to insure rapid recovery and to prevent adhesions to the intestines. As fibroids are frequently multiple, especially the subperitoneal variety, care should be exercised to remove them all, so as not to require another operation in a twelvemonth.

4. Vaginal Hysterectomy is, by election, when enucleation cannot be done, the safest and best operation for uterine fibroids when it can be performed, and if cases were seen and diagnosed early, it is probable that most of them could be operated on by this method. Of course, the tumor must not be too large nor must the adhesions be too extensive. The clamp method is the most rapid, and in the hands of one of our distinguished Fellows, Dr. McNutt, it has proven eminently successful in a number of cases. The application of ligatures to the uterine and ovarian vessels and the closing of the vaginal vault is claimed to be the more scientific operation of the two. The appendages should always be removed with the uterus. When there are not many adhesions and the work is done aseptically, as it always should be, there is no need of drainage. Indeed, I believe we are better off without it, as there is always some danger of sepsis entering the abdominal cavity through a drainage-tube.

5. Abdominal or Supra-vaginal Hysterectomy becomes necessary for the removal of a fibroid when the size of the tumor will not admit of its removal per vaginam, and in cases where extensive adhesions have formed, or when the case is complicated by tubal or ovarian disease. Of the various methods of procedure now in use, the following are worthy of mention: Keith, Bantock, Péan, Tait, Price, Thomas, and Cushing, of Boston, as the operation of election, fix the stump in the external abdominal wound as in a Porro. Steel pins and the wire or serre-nœud are used. The pedicle is fixed into the external abdominal wound and charred with the cautery or dressed antiseptically. Excellent results are recorded by these great men, and it would, perhaps, seem presumption on my part to question the procedure. But if I were asked "Is this the most scientific and the most satisfactory method of treating a uterine pedicle?" I must say "No." Because it prolongs the healing process and keeps the patient in bed for several weeks. During the first week or ten days there is bound to be more or less sloughing. It leaves an unsightly scar, and patients are almost certain to complain subsequently of more or less annoyance, distress, and pain from tension, especially if the abdominal walls are thick. More than this, it is very apt to leave the patient with an undistensible bladder calling for frequent micturition.

6. Kelly's Method.—Kelly fixes the stump of the abdominal wound external to the peritoneum, but internal to the skin. This method has not been generally adopted.

7. Byford's Method.—Byford, and another of our distinguished Fellows, Dr. Mays, performs cœliotomy for the removal of the uterus and fibroid, and then fixes the pedicle anteriorly or posteriorly in an opening made in the vaginal vault, thereby obtaining free drainage per vaginam.

8. Schroeder and Brennecke's Method.—Schroeder and Brennecke treat the pedicle intra-peritoneally as in ovariotomy, and use abdominal drainage.

9. Leopold's Method.—Leopold uses transverse ligation of the pedicle and drops it into the pelvic cavity without drainage.

10. Zweifel's Method.—Zweifel treats the stump intra-peritoneally, using an interlocking stitch of silk in the broad ligament and catgut across the cervix.

11. Extra-intra-peritoneal Method.—Chrobak, Hofmeier, Baer, Goffe, Eastman, and others use the extra-intra-peritoneal method of treating the stump. The ovarian and uterine arteries are ligated on each side, and the peritoneal surfaces are united over the pedicle so as to leave it outside, practically, of the peritoneal cavity.

12. Eastman's Method.—Eastman, latterly, enucleates the entire tumor with or without the uterus, and stitches the serous surfaces together.

Keith remarks that in operating for a uterine fibroid the operation should always be begun with the intention of performing the intra-peritoneal method and removing the whole organ, if possible; but the operator must be prepared to adopt any method, should it seem best to do so, when the exact conditions are found out during the progress of the operation. This, I am sure, we will all consider very good advice.

13. Total Extirpation of the uterus is now practised by Martin, of Berlin, Stimson, Krug, Polk, Boldt, Ede-

bohls, and others. Martin, in his total extirpation, attaches the vagina to the peritoneum all round with catgut sutures, the ends of which are brought out through the vagina.

Jones uses the combined method of removing the tumor from above, and clamps the arteries and ligaments from below. Polk and Stimson use but four ligatures, one in front, one behind, and one on each side. These are tied together to form a vaginal vault, bringing the ends out of the vaginal outlet for drainage. Polk and Mann also recommend the use of a glass drainage in the abdominal wound.

The great danger of the intra-peritoneal, extra-intra-peritoneal, or any modification of the stump operation, lies in the fact that after the ovarian and uterine arteries are tied there is very little chance for blood-supply to the stump, and sloughing is apt to result. If, however, the vaginal vault is not disturbed and a V-shaped piece is cut out of the cervix, leaving but a mere shell of cervical tissue in the form of an anterior and a posterior flap which, if accurately brought together with their serous coverings and stitched with a continuous catgut suture, there need be little fear of sloughing. Nor do I think it necessary, as a rule, to have drainage so far as the stump is concerned, unless there have been extensive adhesions broken up leaving oozing surfaces in the pelvic cavity.

Leopold, in a recent article, epitomizes the results of all the cases of myoma upon which he has operated since 1889–90, as follows: Enucleation by the vagina, 46; mortality, 0. Castration (oöphorectomy) 40; mortality, 2.5 per cent. (1 sepsis, 1 heart failure). Myomectomy (abdominal hysterectomy) with intra-peritoneal treatment of stump, 21; mortality, 0. Myomectomy (abdominal hysterectomy), with extra-peritoneal treatment, 29; mortality, 2; 6.8 per cent. Vaginal total extirpation, 24; mortality, 0. Total, 160; mortality, 4; 2.5 per cent.

Report of Case I. with Exhibition of Specimen.—Mrs. S——, aged fifty-two, had been suffering from menorrhagia for about three years, and profuse metrorrhagia for the past two years. The hemorrhages occurring as frequently as once a week and latterly twice a week, lasting for one to three days. About one year ago she had a curettage done which relieved her for a month or two, but the hemorrhages again came on more profusely than ever. There was always considerable pain during the attacks. The patient was under my care for three months, during which time all the hæmostatic remedies were tried, with little or no beneficial effect.

On account of her age it was hoped that with the menopause the hemorrhage would cease of itself and the metro-fibroma disappear. The hemorrhage, however, became more and more alarming, so that it was at length decided to operate. Accordingly, the patient was removed to the Waldeck Sanatorium, and on October 14, 1894, with the valuable assistance of Drs. McNutt, Cooper, Lilliancranz, Barbat, Kelly, Potts, Carpenter, and Wells, I performed abdomino-uterectomy. A median incision was made, and the fibrous uterus lifted out of the pelvic cavity. Braided silk ligatures, which had been boiled for half an hour on each of three successive days in pure lysol, were used for the vessels in the broad ligament on each side, external to the ovaries. Clamp forceps were applied next to the uterus, which was separated from the bladder, and the ligament and vessels were divided down to the vaginal vault. Then a V-shaped incision was made anteriorly and posteriorly, beginning immediately above the vaginal attachment and extending well down into the cervix, so that when the uterus and appendages were removed there remained only a V-shaped excavation, or an anterior and a posterior lip of cervical tissue to form the pedicle. The cervical canal was thoroughly cauterized with pure liquid carbolic acid, and the flaps carefully united and the peritoneum closely attached above them with chromatized catgut, making an extra-intra peritoneal stump.

The operation was practically bloodless, as there was not a tablespoonful lost. The stump was dropped into the pelvic cavity and the abdominal incision closed with a continuous suture of catgut for the peritoneum, and silkworm for the edges of the fascia and skin. The incision was then covered with pure iodoform, and the usual gauze and cotton-wool dressings applied. No drainage was employed. The time occupied in the operation was a little over an hour. The patient made a good recovery. On November 30th, six weeks after the operation, she attended her daughter's benefit at one of our local theatres.

The tumor, as you will observe, is a diffuse fibromyoma of the uterus itself, measuring about five inches in diameter.

Case II.—Miss R——, aged forty, was sent to me by Dr. Hennessay, of Napa, Cal.

History: At the age of seventeen the patient suffered great discomfort for some days, once a month. Up to this time the catamenia had not made their visible appearance. A physician, called to attend her during one of these attacks, discovered that there was an occlusion or absence of the vagina for the lower two-thirds, and that the menstrual flow had collected in the upper patulous portion of the vagina and in the uterus. An operation was performed establishing an artificial vagina, and all went well until about ten years ago, when considerable pain recurred regularly with each menstrual epoch. For the last two or three years the catamenia have been more profuse and the pain very severe, lasting for five days to a week each month, until the patient was obliged to spend most of her time in bed. Within the last six months the menorrhagia became a metrorrhagia occurring two or three times a month. The loss of blood has at no time been very great, but the pains became more and more excruciating. In one of these attacks Dr. Hennessay was called to see her and diagnosed fibroid of the uterus.

Upon examination I advised immediate operation, because the fibroid completely filled the pelvic cavity, interfering with defecation and urination. The patient had lost flesh from 150 to 109 pounds, and the severe pain was wearing her out.

The operation was performed with the valuable assistance of Drs. McNutt, Hennessay, Flesher, Southard, Potts, and Whitehouse, on December 16, 1894. Abdomino-uterectomy was performed in the method indicated in the last case. Very little cervical tissue was left to form the stump. The peritoneal surfaces were carefully united over the uterine pedicle, and also over the ligatures in the broad ligaments. The abdominal cavity was closed without drainage and sealed with aristol and collodion, and the usual dressings applied.

The patient so far promises to make a good recovery. I believe it is of great importance to make the operation as rapidly and as bloodless as possible, as these patients are usually exsanguinated. It is also all-important to leave as little cervical tissue in the pedicle as practicable. There is no occasion for drainage and no fear of sloughing, as the vaginal vault has been undisturbed and is competent to furnish sufficient blood-supply to nourish the pedicle. It is a quicker operation than total extirpation, and has the decided advantage of leaving the vaginal vault intact and of sealing the peritoneal cavity after the operation.

Hypnotism as a Therapeutic Agent has recently received a slight impetus through the publication of a work entitled, "Die Bedeutung der hypnotischen Suggestion als Heilmittel," by Dr. Grossman, editor of the *Zeitschrift für Hypnotismus*. The author is an enthusiast on the subject, and has secured favorable opinions on hypnotism, from about thirty fairly well-known neurologists in Europe.

GREEK AS THE INTERNATIONAL LANGUAGE OF PHYSICIANS AND SCHOLARS IN GENERAL.

An Answer to my Critics and Correspondents.

By ACHILLES ROSE, M.D.,

NEW YORK.

Τίς οἶδε, ἴσως ἡμέραν τινα πραγματοποιηθῇ τὸ ὡραῖον δὶ ἡμᾶς ὄνειρον τοῦτο.—Δ. Βικέλας.

THE question of adopting the living Greek of to-day as the international language of scholars, first proposed by the MEDICAL RECORD, has become the subject of much discussion. Many American and European journals, even journals printed in Turkey, have entered into the discussion. Professors of philology in German universities and colleges have found it worthy of reply, and have published their views on this subject in scientific philological periodicals—on that subject which was so warmly discussed by some of the most learned and prominent members of the New York Academy of Medicine when I read before it a paper with the above title, published in the MEDICAL RECORD of April 21, 1894.

On the whole, the responses have been favorable to our cause. The great number and the tone of the commentaries prove that thought on the subject has been aroused, and will continue. Bikélas, the Greek Washington Irving, after having read my article, wrote the words quoted at the head of this paper in regard to the idea of Greek as the universal language for scholars: "Who knows, some day, perhaps, this our beautiful dream may become reality."

I have received many congratulatory letters from physicians, from other scholars, from men of prominence and of high official positions, many urging me to continue speaking and writing on the Greek question. I feel especially gratified that all—without exception—agree that I have selected a noble cause.

The controversy was initiated by an article in our New York Greek journal Ἀτλάντις, written by an American gentleman who has mastered the Greek language. In my answer, which appeared likewise in the Ἀτλάντις, I expressed my gratitude to the author of the article for the publication of his views. They were on points of minor importance, and easy to refute. I was grateful, because I was thereby given the opportunity to complement what I had said in my paper.

The same thanks I wish to address to all my critics: I am under obligation to each and everyone for the opportunity thus afforded me of saying many more things in favor of Greek.

A German philologist, after expressing himself very courteously in praise of the energy which, he says, I have exhibited, is of the opinion that the idea of having Greek as the international language of scholars will not become realized. He refers to my narration of the failure of all attempts to invent a world-language, and also to my illustration of the attempted official invention of the Maximilian style of architecture. He says an international language for scholars can likewise neither be nominated nor invented. Resolutions to this effect might be adopted, but nobody will learn the language, because nobody has time to learn an extra language for the sole purpose of congresses and periodicals. "Dr. Rose," he says further, "is probably not sufficiently aware that the question of pronunciation does not stand now, as it stood formerly: Erasmian or Reuchlinian? but rather: When was the pronunciation of the different words transformed into the pronunciation of the Greeks of to-day? This change of pronunciation of the different sounds—as they are written—has taken place at different periods. When? —that is found by the study of inscriptions."

The small boy, when he learned in his book of natural history that the whale belonged to the class of mammalia, remarked that the whale had brought disorder into zoology. Erasmus, indeed, is the whale in philology. It is impossible to say how much disorder this man has caused during the past three hundred and sixty-five years—that is, since he introduced his absurd pronunciation.

I am not a philologist, and I do not know if researches have been made as to how German, French, and English have been pronounced in different centuries. I cannot determine whether the result of such researches would compensate for the immensity of brain work employed, but it appears to me that much time and brain-work have been wasted through the fault of Erasmus. If it had not been for him, nobody might have suggested, or might now suggest, any other pronunciation of classical Greek than the pronunciation employed by the Greeks of to-day. Whatever the scientific value of historical studies of pronunciation may be, it concerns in no way the practical study of Greek. Higher philology should only be attempted after the language has been learned practically.

It is quite true that a universal language for scholars cannot be introduced by force or by persuasion, and that nobody has time to learn an extra language for the purpose of congresses and periodicals.

It is conceded, even "im naturwissenschaftlichen Jahrhundert," as the Germans call it, that a regular and solid scholar should know Greek and Latin; it is conceded that the classics are powerful means to elevate, to ennoble our mind, our character. Since Greek is on the school plan already, there is no new language to be learned; only another, a rational method of learning has to be adopted; it has to be learned practically for practical purposes, as well as for ideal. The most perfect, the ideal language will then speak for itself, and will inspire scholars to unite in agitation for its general adoption.

Another critic says that the Greek of the newspapers and books of to-day is an artificial, a paper language, a language which nobody speaks. Still another critic, a Greek, a man of profound learning, published an extensive article on the discussion of my paper before the Academy of Medicine in the Νέα Ἡμέρα, a Greek journal of high rank. He thinks the dispute which prevails in Greece between the purists (*καθαρισταί*), who want to write classical Greek only, and the vulgarizers (*χυδαϊσταί*), who write the language which is actually spoken, will be an obstacle to the acceptation of Greek as the international language.

Some Greek newspapers employ indeed an artificial old-Greek. The Greek medical journal which I happen to read every week, the Γαληνός, is not one of them.

Dr. E. Engel has thrown an electric search-light on the prestige of the college professors of Greek with their Erasmian pronunciation; he has given no quarter in hurling sarcasm on those dignified men of science who clung to an old pedantry. He is right. But when he speaks of the artificial Greek of the journals I have to say what women say when they read Schopenhauer: "What kind has this man become acquainted with?" Dr. Engel, I am sure, has overlooked those journals which are written in the language of my Γαληνός. Here we find an idiom which is at once clear and precise, choice and of noble simplicity—language as it is really spoken, similar to English as we find it in the MEDICAL RECORD, as we hear it spoken in the Academy of Medicine. All the modern Greek books which I have read, children's stories, translations of Victor Hugo's works, above all the works of D. Bikélas, are all written in the language which is to-day spoken in Athens. I have not read any Greek medical books, but I presume they cannot be written in any other language than in the actually spoken Greek. Concerning the dispute between the purists and the vulgarizers, this is only a temporary affair between Greek writers. This dispute is not half as bad as the fashion of many German writers to mix up German with all possible

foreign words. Good modern writers in Germany as well as in Greece will continue to educate the masses to appreciate the best language, the natural, not the artificial. We, who are learning living Greek, should occupy ourselves with the best literature only.

It is most gratifying that my assertion that modern Greek does not materially differ from the ancient, has not been contested. Only one critic in the *British Medical Journal* protests, not from his own knowledge, however, but on the authority of Mr. Andrew Lang. This Mr. Lang, who said the very things which Dr. Engel says are the manifestation of a conspiracy of ignorance and malevolence against Greece. Perhaps Mr. Lang (whose profound knowledge of ancient Greek is undisputed) has actually travelled but little in Greece. He writes in that vein which is peculiar to some tourists; they delight in exaggerations of exceptional and accidental incidents, and generalize from these. To mention only one thing from which we can judge of Mr. Lang's ill-humor: He finds in the modern Greek "stereotyped phrases most distasteful to the scholar." Sure enough, he could have found such phrases at home, and everywhere. Everywhere scholarly speaking and writing are the exception, the commonplace is the rule. But wise Mirza Shaffy has said, "I will praise God that not all men are wise, because if they were, wisdom would be too cheap."

What I have to say here in regard to the differences between old and new Greek, I shall include in my answer to several colleagues who wrote to me asking about the best method of learning living Greek.

I have just been reading for the first time Dr. E. Engel's book, "Griechische Frühlingstage," and have been pleasantly surprised to find the following instruction: "How shall we learn the real language of the New Greeks? Turn over the leaves of one of the many grammars to read something about pronunciation, but then throw it, and leave it, aside, and take instead a collection of Greek popular songs and fairy tales. Finally read comedies which really have been played." I myself had followed a similar course when I undertook to learn the living Greek, and I gave some of my correspondents the advice to do likewise. I recommend the reading of children's stories, above all of Bikélas's beautiful Greek translation of "Andersen's Fairy Tales." The most essential, however, is to speak with Greeks and hear Greeks speak among themselves. In a little circular by means of which I hope to excite interest in the establishment of a Greek school, I say: Let us do away with the study of Greek by the eye only! Let us have a Greek school here in New York, with natives of Greece as teachers, with children of immigrated Greeks, with Greek as the language of the house, where our own children can learn Greek, just as they can learn French or German in French and German schools in this, our city.

Dr. Engel says, "Whoever has learned old Greek will need not much more than to learn some additional few hundred new words. This is rather easy work, since the roots of these words are Old-Greek." He says further, that a foreigner of classical education thus prepared will understand the Greeks in Greece, and the Greeks will understand him, provided he have the right pronunciation.

To this one might say: there exists in reality no New-Greek. The words which deviate from the literary language of the classical period are at least as old as the words of the same meaning in the classics, although we cannot find them in our school dictionary. κρασί (wine), νερόν (water), are beautiful words of the oldest Greek, perhaps older than οἶνος and ὕδωρ; the college dictionary does not know them.

Dr. Koumanoudes, a professor at the Athens University, has collected from inscriptions and other sources ten thousand Greek words not met with in any Greek text of the classical period. My Greek friends tell me that words and forms of speech used in Homer and some of the earlier poets, which in later classical writers have disappeared, are in constant use at the present day among the people in different parts of Greece.

Only what is dead, like the Latin language, does not change any more. Greek has changed from age to age, like every living language, because it has continued to live, but as Mr. Gennadios, in a famous article on Greek, which appeared in the *Forum*, October, 1894, and which has caused a flood of controversies, commentaries, and enthusiastic approvals, says of the Greek language, "plus ça change, plus c'est la même chose." Greek was always itself and itself alone. Greek has never made a compromise with any other language. The difference now remaining between old and modern Greek is that difference which exists between old and modern generally. Thus it has been the unique destiny of the Greek language to have had, from prehistoric times down to our own, an unbroken life. Not one link is wanting in this chain which binds the new Greek to the old. Of course the classic texts, except when they gave—as in Aristophanes—the popular idiom, differed from the everyday peoples' language just as well as the classic texts in other languages differ from the idiom of the people in their daily intercourse. But the classical and the popular language are Greek, one just as much as the other. The Greek which I speak with my Greek friends in the καφενεῖον or in the παντοπωλεῖον in Roosevelt Street in this city of New York is not a iota less Greek as the Greek of the classical writers.

The methods of learning Greek or any language which Dr. Engel, myself, and perhaps many more, have discovered for ourselves instinctively, is really pointed out as being unmistakably the best when we consider certain facts of physiological anatomy and pathology of the brain. From the ways in which the use of the language is lost, or suffers varying degrees and kinds of impairment, we can learn how it best may be acquired. Monographs, above all Kussmaul's philosophical and elaborate work on the disturbance of speech, numerous articles in our medical periodicals, and special chapters in our text-books on nervous diseases, treat on the defects of speech in their relation to neuropathology. The first to apply the recent discoveries in this direction to the methods of learning and teaching languages, was Dr. Howel T. Pershing. He has expounded his views in an article entitled "Language and Brain Disease," appearing in the *Popular Science Monthly* for October, 1892.

I may be permitted to give an abstract of this most valuable paper: All the motions and sensations of the various parts of the body have their centres in the brain. Four centres are especially concerned in the use of language; the auditory centre, by which words are heard; the motor speech centre, which excites and controls the vocal organs in speaking; the visual centre, by which the written words are seen; and the writing centre, which guides the motions of the hand in writing. The centres are capable of individual development by practice. Certain pathological conditions instruct us on the relative importance of each of these centres in the different ways of using language. The loss occasioned by the destruction of any language centre is an indication of the defect that must result from neglecting to cultivate the same centre by practice. When the auditory centre is aroused by impulses coming from the ears, we have the sensation of sound; when it is aroused by nerve-currents, not from the ears but from other parts of the brain, we have only the memory of sound. For a word to be understood, the auditory centre alone is not sufficient. The sound must awaken the memories of other sensations. The nerve-currents passing from one centre to another are called association impulses. Prompt and strong associations must be cultivated as a means of securing clear and vivid ideas. The auditory centre is the first lan-

guage centre to be developed. A child first hears, then understands the sound of a few words, then it imitates the sounds it understands, and soon can use them. Here we have the co-operation of the motor speech centre. The two centres work and develop together, but the auditory centre is the more independent and fundamental. If a child becomes deaf, even as late as the tenth or eleventh year, it also becomes mute, unless special educational measures are employed; in adults destruction of the auditory centre interferes sadly with talking, while destruction of the motor speech centre does not seem to interfere at all with the understanding of speech. When reading is first undertaken, the auditory and motor speech centres, with their association fibres, are already well developed. The visual centre now begins to work with them. At first it is necessary to read aloud in order to make the association impulses exact and vigorous. In writing, the visual memory may be an aid to correct spelling. Disease cutting off the communication of the visual centres with other centres causes mind-blindness. The patient sees but does not recognize what he sees. If the affection is so slight that he can still recognize ordinary objects, but not written or printed words, he is only word-blind. Although reading in such a case is impossible, writing is not prevented; the patient, however, cannot read what he has just written. Speaking and the understanding of speech are not interfered with at all. Destruction of the motor speech centre causes a much more extensive interference with the use of language; the motions of the vocal organs being no longer co-ordinated, an inarticulate jargon, or the senseless repetition of a word or phrase, is all that is left of the power of speech. The ability to write is also lost. Reading aloud is, of course, impossible; but it is also a matter of common observation in such cases, that the ability to understand print is lost or greatly impaired. This proves that in most persons direct associations between visual words and ideas, if they exist at all, are too weak to be depended upon.

It is the destruction of the auditory centre which causes the most extensive loss of language. In such pathological conditions in which words are heard but not understood, we speak of word deafness. There are other pathological conditions in which, although the vocal apparatus is in perfect order, the words uttered are mutilated, deformed, and often totally different from the ones intended. We learn here that in talking the most important association impulses do not go directly from the centres for ideas to the motor speech centre, but to the auditory centre, which, remembering the sounds, by fresh impulses arouses the motor centre to utter them. Writing is still more interfered with, because it depends upon the utterance-memory, which goes astray without the sound-memory.

The auditory centre is essential to the understanding of what is read. In reading the visual centre cannot, as a rule, call up the ideas, else destruction of the motor speech centre would not interfere with reading as it does. Nor is the motor speech centre directly connected with the centres for ideas; if it were, destruction of the auditory centre would not interfere with talking as it does. This leaves only the auditory centre, which is abundantly capable, for the sounds of the words readily awaken ideas before the other language centres begin to work and after they have been destroyed. The auditory centre is the central station, through which the other language centres communicate with the centres for ideas. The sound of a word is the word itself. Printed words are only convenient symbols for recalling the sounds. Thinking requires the use of words, not visual words, but the words heard and uttered. It is true deaf-mutes may learn to read and even to speak, and doubtless to use visual words in thinking; but it is with much more than ordinary difficulty. It is a fact of great significance that those deaf-mutes who have once been able to hear, have a great advantage over those deaf from birth, not only in learning to read and speak, but in general mental capacity.

Let us apply the above facts to the method of learning another language than our own. There is the prevailing school and college method to learn the language by force of memory from grammar and dictionary. By this method it is conceded that the ability to converse is not acquired, but it has been generally assumed that by it the pupil could at least learn to read, and perhaps, if diligent, to write to advantage. Yet, even for this purpose alone, the grammatical method must be a failure in so far as it neglects to train the pupil to a quick perception and a ready utterance of the sounds of the language, for we have seen that the auditory and motor speech centres do an essential part of the work in reading and writing. Even if direct associations from the visual centre may be cultivated, as in the case of deaf-mutes, why, instead of an easy and natural method, choose an unnatural and difficult one that leads to poor results? What are the results of the grammatical instruction? The vast majority of our college graduates neglect to read the ancient authors. They are not able to read them, but only to make a translation. They find no sufficient reward for this slow and irksome process.

Dr. Engel, while travelling in Greece, one day visited a school, and was delighted to observe with how much facility the boys read Demosthenes and Homer. He was asked to read before the class some Greek verses with the pronunciation as employed in German colleges. The Greek boys, while he was reading from the Ilias, did not know what to say at first, as they were under the impression he was reading German; but when they were given to understand that it should represent Greek, they burst out into laughter, stamping with their feet, screaming and uttering cat-calls, and the principal himself could not help joining in the general hilarity. Anyone can try the experiment of creating fun among Greeks if he speaks to them of Erasmus of Rotterdam.

We can easily understand this hilarity when we learn from Hamerton, quoted by Dr. Pershing, how a Frenchman, who had long studied English and was thoroughly conversant with the literature, but had never become really familiar with English sound, read Tennyson's "Claribel:"

"At ev ze bittle bommess
Azvart ze zeeket lon
At none ze veeld be ommess
Aboot ze most edston
At meedneeg ze mon commess
An lokez doon alon
Ere songg ze lintveet svelless
Ze clirvoiced mari dvelless
Ze slombroos var ootvelless
Ze babblang ronnel creepess
Ze ollor grot replee-ess
Vere Claribel lovlee-ess."

Now the student, like this Frenchman, having reached the stage of progress here indicated, visits our country whose language he has been reading. What he hears at first is almost wholly unintelligible, though the same words in print would be familiar. A little later it is not uncommon for him to hear a sentence without comprehending it at all, when suddenly it will flash upon his mind as though he had seen in print what he is hearing and as if he had pronounced it himself, and then he understands readily. The same thing occurs in listening to one's native tongue when the auditory centre has been slightly damaged by disease. When the student becomes familiar with the spoken language through every-day experience, he reads faster, finding a clearness and vigor of meaning before unknown. It is not because his vocabulary is larger, but because it is more efficient. The auditory centre, which formerly, through lack of practice, failed to perform an essential part of the work, is now, at the

suggestion of the visual centre, quick to recall each sound, and, reinforced by the utterance-memory, is quick, accurate, and vigorous in reviving each idea. The work of exchange is now done by the true coin of the realm.

Greece, the life and customs, the virtues and faults of the Greek people are little known. Those tourists who have visited the Greek seaports, or who have lived in Athens only, do not know the country people, those Greeks of the interior of the land or of the islands, who are the heart of the Greek nation and true types of Greek character.

The nation which, after more than one thousand eight hundred years of bondage under different conquerors, the last time under Turkish yoke during almost four hundred years, fought with fire and sword, alone, without foreign help, without allies, and gained, through its heroism, liberty, freedom, independence, this nation deserves our admiration. It is impossible to find in all history more bravery, more patriotism than in the history of the rising against the Turks, in the seven years' war from 1821 to 1827. Only the historians of the classical period are wanting as yet to do justice to the war of the greatest horrors and the greatest bravery.

Several of my German correspondents write that the Greeks at present have alienated German sympathies for a long time, on account of financial failures of the Greek Government, by which failures a great many Germans have lost their money. They say that this condition of things may much interfere with the success of an agitation for the adoption of the Greek language.

In answer to these correspondents I may be allowed to give the words of a Greek, as Dr. Engel has reported them. The Greek said: "You know that I have studied philology and archæology, and that I feel at least as enthusiastic about Old Hellas as you German philologists. Shall I tell you my true opinion from my heart? We New-Greeks, with all our weaknesses and faults, with our haste, and at the same time with our oriental slowness, we are much better than the Old-Greeks.

"Please let me finish! Yes, better as citizens of our state, better as sons of our fatherland, better as members of human society. One thing I admit: the Parthenon is more beautiful than the Metropolitan Church in the Phokion Street; the Hermes of Praxiteles is more beautiful than its plaster cast in the Exchange of Athens; Sophokles is a greater poet than Mr. Koromilas, and Thukydides is a greater historian than the elder Trikoupis, although the latter's history of the war for liberty (the rising against the Turks) is not bad. In fact, in regard to art we New-Greeks are a poor shadow of what our ancestors have been.

"On the other hand: With fire and sword have we taken what our glorious forefathers never possessed, one common fatherland. Nowhere and at no time had they a united Greece; treason and trickery, brethren fighting everywhere during the whole lauded period of old Grecian history. The old history may be all well enough for the schools to read and to make compositions upon; we New-Greek men need better examples, and, glory be to God, we find them in the history of the New-Greek war for liberty. We possess a united beloved fatherland, whose sons stand shoulder to shoulder against the oppressor of our brethren. Where was there ever a Greek army like ours in Thessaly? There we find no more Athen's hegemony, and Sparta's Peloponesian confederacy; it is all over with Corinth's envy and Thebes's trickery. What Demosthenes could not accomplish—to call all Greece together against the common enemy in the North—with us this will be accomplished by only one order from one government. We shall no more give to the world either a Parthenon or a Hermes, but we shall never again, through the fault of our own discord, become bent under the heel of the Barbarian.

"Our financial trouble? How smart you are, you Europeans! You judge from the quotations of our securities on 'Change. The Greek loans are down, but what has this to do with the wealth of a land? Our government has no money, but the inhabitants have money or other property. There exists no pauperism and there are no proletarians among us, and this is worth more than the quotation at par of our loans.

"We poor? If Turkey would offer to sell us Epiros, Macedonia, and Creta for one milliard drachmas, in one month the money would be raised. No king could buy for one milliard the most miserable of our islands.

"We have a fatherland, and we love it. All people love theirs; not all with the same fervor as we. At home and abroad, Hellas above all! Have you ever heard in our times that Greeks in foreign lands have become untrue to their country? Do you know who gave us the most beautiful buildings in Athens? Greeks in foreign lands. An old Greek, Theognis, long ago sang: 'Many countries have I seen, and I was pleased with some, but there exists nothing sweeter than our own.' The severest punishment of the old Greeks was exile. Do you know what is the greatest curse which a Greek, when in passion, casts at another Greek? 'May you be buried in foreign soil!' And when anywhere two Greeks meet in foreign land, with which salutation do they part? **Καλὴν πατρίδα** (Happy fatherland, meaning, may you return happy to our fatherland).

"We are *one* united people, we all speak *one* language, we all pray to *one* God, we have all *one* and the same will, the will to live as a nation, and we shall live!"

I may be allowed to quote from another article—not yet published—of my friend, Dr. **Καζαντζής**. "Our civilization, as it stands, is thoroughly impregnated with Greek ideas. Our arts, our letters, our morals, our institutions, our religious tendencies even—since it is no longer permissible to regard monotheism as an entirely Jewish legacy—are based upon Greek culture, inspired by Greek perfection, and renovated with Greek refinement. The study of Greek is not, as it has been heretofore, a mere linguistic discipline, or a purely scholarly attainment, but it means a practical study of the sources and origins of our modern civilization. It affords to the modern mind a better comprehension of the nature and character of our own elements of culture. For this purpose the methods and systems of teaching and learning Greek must be remodelled. Grammatical chicane has to be reduced to a more human minimum; a closer attention to the spirit must be advanced to a really humanistic maximum."

Greek, the most beautiful of languages, will live

ΤΟ ΩΡΑΙΟΝ ΖΗ ΑΙΩΝΙΩΣ!

Decrease of American Students in German Laboratories.—A correspondent of the *Occidental Medical Times* writes from Berlin: "When I worked in Professor Arnold's laboratory in Heidelberg, ten years ago, it was known as the 'American Laboratory.' At that time the Americans frequently exceeded the Germans in numbers, and Heidelberg always has been a favorite rendezvous for American physicians. In a conversation with Professor Arnold a few weeks ago, he assured me that the number of American physicians who did work in pathological anatomy at his laboratory was diminishing each year. This falling off in attendance he attributed to the improved facilities for such instruction in the United States. 'When the professors of such branches as anatomy, physiology, and pathology,' said he, 'can devote themselves solely to their respective subjects, the pre-eminence of American medicine will be assured.'"

THE WORK OF THE ACADEMY OF MEDICINE.

BEING AN ADDRESS BY THE RETIRING PRESIDENT, THURSDAY EVENING, JANUARY 17, 1895.

BY D. B. ST. JOHN ROOSA, M.D., LL.D.,

NEW YORK.

FELLOWS OF THE NEW YORK ACADEMY OF MEDICINE, GENTLEMEN: Two years ago, by virtue of your favor and choice, I assumed the office of President of this Academy. Since that time, thirty-four regular meetings have been held, including the one at which we are now assembled, and seven special meetings. It has been my privilege to attend all of the regular meetings, and to be present throughout their proceedings, in all instances except two, where I was obliged to absent myself after the session was opened. Of the special meetings, I have been present at all but one. I allude to these in themselves unimportant details, because they furnish, if rightly considered, a broad view of the general public work of the Academy, and, although they can give no idea of the various meetings in which your executive officers are gathered together to consider the machinery which enables the Institution to carry on its work; nor do these facts include the important matters of the various sections, comprising the whole domain of medicine and surgery, into which the Academy is now divided. But the public gatherings of the whole Academy furnish a course of medical instruction which, from practical experience, I am able thoroughly to appreciate. It has been a course of well-considered lectures from experts and authorities on the different topics which they have discussed, and added to this, in most instances, we have also enjoyed the criticisms and suggestions of those doctors equally expert with the author of the paper. These papers, with the exception of one from Washington, two from Buffalo, and one from Albany, have been by the Resident Fellows of the Academy. If there ever is danger to any specialist that he tread too closely the narrow track of his own path, such a course as that which I have had the honor of attending, would serve him in good stead to keep him from a circumscribed and cloudy view. I congratulate the Academy on the record it has made in these scientific productions, and in the work of these special meetings. Although we have not succeeded in accomplishing all that we desire, either in the direction of National Quarantine, or improvement of the water-shed, and the consequent purification of the water-supply, we have performed a fundamental work upon which a future edifice of progress will be erected. We have turned public opinion in the profession to these important subjects—in the former case, the opinion of the profession throughout the country; and while in the latter, perhaps, the subject does not invite so large a view, we have here stimulated inquiry in a proper way among the profession in this city and State. We have demonstrated the absurdity of trying to purify the water-supply of a city by taking possession of the land lying upon the rivers which furnish it. Besides all this, by your action in respect to both these matters, you have vindicated the right of the Academy to be something more than a mere academic debating club, discussing strictly hygienic and therapeutic questions, without looking for any practical outcome as a result of the debates.

Under the direction of the Council, I appointed a committee to look after the interests of Medical Legislation in the Constitutional Convention. This committee, consisting of Drs. Daniel Lewis, Fox, and Pryor, did excellent work, the chief of which fell upon Dr. Pryor, as Secretary of the Committee. He visited Albany, attended several sessions of the convention, and so impressed committees having matters pertaining to our work in the State in charge, that a substantial advance was made. It is now possible to secure appropriate legislation in the Coroners' system, and in other affairs of which their report speaks very fully. It is seen that the Committee was fully alive to the importance of the work entrusted to it. The unanswerable argument, to those who object to bodies like ours undertaking to exercise an influence in higher politics, is that, unless we do, individuals, acting upon their own responsibility, will achieve very much in politics of a lower order. The Academy of Medicine, as I ventured to state in my inaugural address, is not, like the Academy of Medicine of Paris, a collection of mere savants, but it is a body of practical physicians and surgeons, who are obliged, in the absence of State arrangements for medical affairs, to attend to these matters themselves.

In my opinion, the Council of the Academy ought to keep a very strict watch of proposed legislation in Albany, affecting the health of the State, and interfere, as a body, when that is threatened by improper bills, of which it is intended to make laws. The majority, and, I trust, a very large majority of the Fellows of the Academy, believe that, in a broad and catholic way, we should stand between the community and the government, to assist and direct them in all legislation that may affect the public health. This is the only medical body in this city which can at all adequately perform this work, for the simple reason that the term of office of the executive officers is long enough to allow plans to be made and carried on, without interruption or haste, for a reasonable period of time.

During these two years an attempt was honestly made to convert the beautiful rooms on the lower floor to club purposes, for the benefit, solely, of the Fellows, that they might cultivate the social amenities with each other, when not engaged in the meetings of the Academy, the sections, or the committees. This attempt has not been entirely successful, but I believe the good judgment of the Academy will finally evolve a way in which the smoking-room and dining-room may have a larger use than that to be obtained immediately after the stated meetings, and that a wider acquaintance among the members will there be cultivated.

During the last year the library has been enlarged by the accession of four thousand volumes and two thousand five hundred pamphlets, making a total number of fifty-one thousand volumes; and the space for the library has been increased to such an extent, that we may believe that it will be sufficient for the uses of the Academy for the next decade or two, unless the generosity of our fellow-citizens and of the Academicians may be so great as to exceed our present ideas. The Academy deserves the largest medical library in the United States. New York, whatever may be thought of Washington and other centres, is the place where such a library will accomplish the most, where it would be the most accessible to the largest number of workers; and, I have no doubt that a future President will inform you that that end has been accomplished, and that the greatest reference library in this country is to be found within our walls.

A minor improvement, that has occurred during the past two years, is the establishment of our own plant for the generation of electric light, so that the expense of lighting our building will be notably decreased.

The formation of the Bureau for Nurses, and its successful establishment during the past year, is a feature for which the Fellows are, I am sure, grateful, and which they will desire to amplify and sustain in every possible way. For the success of this bureau we are indebted to a very able committee, of which Dr. Landon Carter Gray has been Chairman.

During my term, a law has been passed by the Legislature of the State of New York, which exempts such institutions as ours from taxation. This, certainly, the State ought to have done long ago, and not have com-

pelled the Academy to make certain regulations in regard to a public library before it could be exempt from taxation. The work of this Academy is actually work for the State and the community. There are no private interests to be served here, and I have no doubt, unless taxation is made general on every church, hospital, reformatory, and similar institution of the country, that this righteous law will never be repealed. I took a very great interest in helping to originate the movement, which finally ended in this general bill, and, in conjunction with members of the legal profession and managers of certain benevolent institutions, assisted to the extent of my ability in carrying the work through.

On my accession to the presidency, there were seven hundred and fifty-two Resident Fellows, thirty-two Non-resident Fellows, forty-two Corresponding Fellows, and nine Honorary Fellows, being a total of eight hundred and thirty-five. At the close of my term, in 1895, there are seven hundred and seventy-four Resident Fellows, sixty Non-resident Fellows, forty Corresponding Fellows, and seven Honorary Fellows, making a total of eight hundred and eighty-one, being an increase in the whole number of forty-six. The annual report of the Treasurer, printed and circulated, with the notices for the annual meeting, for the benefit of the Academy, for the first time after my term of office began, in the year 1894, again renewed this year, gives you an accurate idea of the Academy's financial condition, which is thoroughly sound, although, we may hope, when the present period of commercial distress is fully recovered from, that the gifts of generous men, who appreciate our work, will make it much better. This period has been so severe, that young members of the profession, fully eligible, whom we should have been glad to welcome, have hesitated about incurring the obligation of the admission fee and the annual dues. It is a matter of pleasant surprise to me that we have decidedly increased in our resident fellowship, in spite of the difficulties induced by the stringency in the money market. But, I have no doubt, more prosperous times will also bring prosperity in fuller measure to a profession which, although it serves the public very largely, without honorarium or fee, is among the first to suffer from any general financial depression.

At this point I think we have a right to indulge in a little self-congratulation over the business capacity of members of the medical profession. It is sometimes asserted, and perhaps believed, that our profession has no aptitude for business affairs. I have always thought that our apparent want of business skill for private matters was simply a want of attention, generally enforced by the exactions of professional life, to the details that are necessary to make business thriving — in other words, a man usually has no time to practise medicine and to also make money; but that a man with intelligence and education enough to make a good doctor, would generally make a good business man, did he attempt it, I feel morally sure. At any rate, let us look at the facts in regard to the business outcome of the labors of the founders, and benefactors, and previous officers of the New York Academy of Medicine. We are now, after a period of forty-eight years, in a commodious, fire-proof building of our own, which cost, in round numbers, about $375,000, in the heart of a beautiful part of the city, having begun in a very humble room, in an insignificant building, in an obscure quarter of the town, with no library and no funds. We own all the furniture, and the library, which, of course, has a value not easily estimated, and we owe at this moment, say, in round numbers, $13,000. If any of our business gentlemen, or artists, or lawyers, choose to make a comparison with the condition of their club-houses, or institutions devoted to professional work alone, I am sure we shall not shrink from it. The capacity of physicians to govern hospitals was demonstrated by the Medical Corps of the United States Army and Navy during the Civil War. Never were hospitals better managed, and in them none but doctors had a voice. The present financial condition of our Academy is a proof that this aptitude for business affairs extends to such an institution as this. We may, I think, invite the most careful investigations of our financial methods, without any fear as to the results of the examination.

These statements I think pretty accurately represent the work of the Academy during the past two years, as far as it can be represented by statistics and figures. The spirit and aims of the Academy, during that period, whether they have been of a high order and worthy of the profession which it represents, it must be for your judgment to determine. Certainly, it will be a matter of most profound regret to the one who now gives up the position, which he has held during that period, if it should be your conclusion that, in any manner, the aims of those who have founded and maintained this institution, in a broad spirit, shall not have been respected and amplified, so far as changed conditions rendered this possible.

The Academy is no longer a small body of physicians, in a provincial town, but it is composed of nearly a thousand members, in a metropolis which is becoming justly celebrated for the achievements of its Fellows in medical science and art. We may claim for New York that it is one of the medical centres of the world, fast assuming an importance which may cause it to be placed on the same plane with those that have existed for centuries in the Old World, and it may be said to represent that large body of men and women called the medical profession of the city.

I have been greatly honored by the suggestions made by various Fellows of the Academy, whose opinion I highly regard, and by the nomination, made in open meeting by one of the Trustees, that I should again become a candidate for your suffrages. But, from the moment that I received the news that I had been elected until now, I have never changed my purpose—not to seek a re-election at your hands. There may have been times in which, during the formation of the Academy and, especially, in the erection of the new building and preparations for it, when it was wise to secure the services of a president for two or more continuous terms, from among the eminent men whom you have elected to preside over your deliberations. But that period has passed. The honor, in my judgment, of being President of the Academy, is very great—second to none that can be obtained by a member of the profession, perhaps, in this country. As such, it is worthy of most grateful acceptance when conferred, but it is an honor that ought to be distributed during a decade, at least, the number of times allowed by each president, having but one term. No good purpose can now, in my opinion, be gained by two continuous terms. The period of service is long enough to allow of the maturing and development of plans, if the President has any, for the building-up of the Academy, and if such an officer be sustained by the Council and Trustees.

Before I turn to welcome my successor, and to hand to him the insignia of office, there are one or two minor points, in the way of changes in our management, which I would respectfully propose for your consideration. I am very well aware that the views of a retiring president cannot have the importance of those of his successor, and yet there may be a little value attached to the experience of one who has been your chief servant for two years. In my judgment, it would be of great service to the Academy, if the offices of Treasurer and Treasurer of the Board of Trustees, were merged in one. The present system produces an unnecessary want of clearness in the statement of accounts, and diminishes the working capacity of both the Council and the Trustees. The Academy should also ask the Legislature for an amendment to its charter, in order that it may have the power to hold

more property than is at present conferred; and, in general terms, I may say that I believe the present Constitution and By-laws, in a few instances, have been outgrown, and need modification and simplification.

The Academy has chosen for its new president a gentleman well known to the profession in this city and country. He has held high executive positions, and entirely to the satisfaction of the profession. He is in the flower of life, in the full vigor of manhood, and, I believe, adequately represents the desire of this Academy to become a great power in conserving the health of the commonwealth, and in advancing the scientific knowledge of our profession. For the past year, as Vice-President, he has, by his regular attendance at the meetings of the Council, come into very close relations with the governing body, has thoroughly learned the workings of the Academy, and is in full sympathy with its aims. I congratulate the profession on his accession to the position, and I predict for him a most useful period of service, which will always be gratefully remembered.

And now, thanking you for the consideration which has been extended to me, as I have endeavored to do my duty in this office, I turn to my successor with interest and pride.

Progress of Medical Science.

Statistics of Renal Surgery.—A paper has recently been published by Dr. James Israel, giving the results of 81 capital operations on the kidney performed by him during the past eleven years, with a mortality of 13.7 per cent. Of these operations 37 were nephrectomies, of which six were fatal. This result is exceptionally favorable, as compared with the results obtained by other surgeons. Thus, of the 100 cases collected by Barth in 1892, 62 either died from the operation or from metastases or intercurrent troubles. (*The Boston Medical and Surgical Journal.*) In 19 of Israel's cases, the kidney was extirpated for hydronephrosis, for pyonephrosis, and abscess of the kidney; four of these patients (twenty-one per cent.) died. The nine patients suffering from hydronephrosis all got well. In 12 cases, the extirpation was performed for malignant growths. Only two of these patients died. Israel attributes this small mortality less to the skill of the operator than to improvement in the means of diagnosis, which enables the surgeon to distinguish renal tumors from divers other abdominal growths, and thus perform ablation of the kidney without opening the peritoneum. Moreover, the greater precision in diagnosis obtained by the surgeon enables him to operate earlier, when the tumor is still small, and has not acquired attachment to surrounding parts. Thus, in two cases, the tumor, which had not exceeded the size of a cherry, had been recognized by palpation while the patient, lying on the sound side, was taking a deep breath. Tumors of the liver coming down in front of the kidney may be a cause of mistaken diagnosis. Thus, in one case, the author found at the operation, instead of the supposed renal tumor, a tumor the size of the two fists descending from the lower surface of the liver. He promptly closed up the wound. In another case, a young girl of fifteen, he found, instead of a renal tumor, an angio-sarcoma of the liver, which was removed with success.

Apart from the data afforded by palpation and the detection of particles of the neoplasm in the urine—even when the bladder is found intact by the cystoscope—there exists no certain sign of malignant tumor of the kidney. It cannot even be said that the type of the hæmaturia is characteristic. Israel suggests as of some value, a diagnostic method which consists in plunging the needle of a Pravaz syringe into the substance of the tumor and obtaining by suction a little of its contents. In three cases he has succeeded in thus removing enough of the tissue elements to enable him to make a diagnosis of the neoplasm. A second cause of lessened mortality in nephrectomy operations is the exclusive employment of the extraperitoneal method. It is in this way that Israel has removed all the tumors of the kidney—even the most voluminous—on which he has been called to operate. There need be no fear in making a large incision, transverse or oblique, curved or angular. The kidney should first be separated from the fat in which it is embedded, then lifted up, tied off, and removed; then by the aid of long retractors, with large blade and polished so as to reflect the light, the retro-peritoneal space is brought well into view, so that all bleeding can be stopped and any accidental perforations of the peritoneum sutured. Lastly, the wound is drained—not packed—and closed with silk sutures.

In one of Israel's fatal cases, symptoms of iodoform poisoning set in, to which he attributes the death. Since then he has abandoned the use of antiseptics in dressings of the abdominal wound. In another case where a cancer of the right kidney was extirpated, the patient, a feeble and cachectic woman, was kept under chloroform two hours; she died at the end of forty hours, and at the autopsy there was found recent cloudy swelling of the parenchyma of the left kidney, which the author considered as the cause of death. This alteration, he says, can only be explained by the toxic action of chloroform on a person already greatly enfeebled. He has since investigated the action of chloroform on the kidneys. In seventeen cases of extirpation of one kidney, he found in fourteen signs of a slight affection of the other kidney after the operation. This affection is generally of short duration. In a patient who underwent an operation for cysto-sarcoma, he observed a transient albuminuria. Six months later, this same patient underwent another surgical operation, and again for several days albumin and casts were found in the urine. These facts seem to demonstrate the noxious action of chloroform on the renal epithelium.

A very interesting case of ureteritis was observed by Israel in an adult man affected for eight years with severe attacks of renal colic on the left side. The diagnosis of renal calculus was made. February 10, 1893, an incision was made over the kidney, which was exposed from the convexity to the hilum, but no calculus was found. As the sufferings of the patient were aggravated instead of benefited by the operation, two months afterward a long incision was made in the same region, and the ureter was laid bare in its whole length. It was found indurated and very much thickened; and at least three times the normal diameter. By an incision in the pelvis, a No. 10 bougie was easily passed down to the bladder. This opening was not closed, in hope that the free flow of urine by the wound would put an end to the sufferings of the patient. This was not the case, and a few days later it was decided to perform ablation of the kidney, which presented to a notable degree the alterations of hydronephrosis by retention. The patient made a speedy recovery, and has been entirely relieved of his pains. Israel explains the obstinate and continuous renal colics in this case by the fact that the ureter was converted into a rigid tube by the chronic inflammation, and could no longer expel the urine by its periodical and forcible contractions. There was, hence, stasis of urine and elevation of pressure, sufficient to cause colics.

Nephrectomy was practised in four cases of renal tuberculosis. One of the patients died soon after of tuberculous meningitis; the others survived the operation and have kept well to the present time. In two cases of renal syphilis nephrectomy was performed with success. In three cases of urinary calculus attended with aneuria, the operation of nephrolithotomy was performed. Two of these patients died, the operation

having been too long delayed; in fact, to be successful, the lithotomy ought to be practised early, at least within forty-eight hours of the onset of the aneuria. In the patient that survived, the secretion of the right kidney was resumed immediately after the removal of the left kidney. This fact seems to indicate the possibility of a reflex aneuria by arrest of the secretion of a kidney, by reason of occlusion by a calculus of the ureter of the other kidney. The author has also seen the irritation of the pedicle of an extirpated kidney produce an arrest of the secretion of the other kidney. A drainage-tube had caused this irritation; when this was removed, the quantity of urine increased from 500 to 2,000 c.c., with cessation of the pain which before had existed at the site of the operation.

In cases of floating kidney, Israel is on general principles opposed to operative interference. He does not believe that the symptoms observed are, in general, the consequence of the abnormal mobility of the kidney. Often the physician has to do with women that are nervous or present some affection of the genital organs. Others have enteroptosis, and it is the relaxation, the fall of the viscera, which is the cause of the functional troubles, rather than the floating kidney. Moreover, we often observe hysterical nephralgias when the kidney is normally situated; also many women present no symptom although one of the kidneys is mobile. Lastly, by an appropriate treatment, we may sometimes cause disappearance of the symptoms wrongly attributed to renal ectopia; and on the whole it may be affirmed that the medical treatment of this affection is much more important than any local treatment.

Nevertheless, nephropexy has its indications, as when the surgeon finds himself in presence of a case of floating kidney accompanied by those paroxysms of renal pain which are the prodrome of intermittent hydronephrosis. Likewise, he will have recourse to nephropexy when the patient complains of continuous pains which seem certainly due to displacement of the kidney, and which resist all medical treatment.

Parasitism, Symbiosis, and Commensalism.—When one organism lives in or upon another, and feeds at that other's expense, as an unbidden guest, without benefiting its host in any way, we call the condition parasitism. But there are many cases where the two beings form a physiological partnership, and these are generally included under the name symbiosis. The members of the firm may be both animals, or both plants, or one may be an animal and the other a plant. In some the association is so close that it is exceedingly difficult to determine that they are indeed two beings and not one. For many years, for example, in some radiolarians little yellow bodies had been noticed. They were seen to possess a well-defined nucleus and a cell-wall, and they were looked upon at one time as spores, at another as secretory cells; but later it was found that, though the radiolarian might die, yet the yellow bodies would survive and multiply. They were, in fact, minute algæ, and, though they lived in the radiolarian, the host and the guests both prospered; for the host gave off carbonic acid and nitrogeneous products, which formed the best food for his guests, the algæ; and these in their turn evolved oxygen, and so supplied one of the chief wants of the radiolarian. Each profited by the association. In other cases the union is much less intimate, and these have been differentiated by name under the term Commensalism. There is a hermit crab, who carries about with him attached to his shell, or even to his claw, a sea-anemone. When the crab feeds the anemone shares the feast, and, moreover, enjoys the benefits of free locomotion, though little able to move itself. In its turn it serves to protect the crab by hiding him, and may also aid in killing or numbing his prey; and when the time comes that the crab must seek a new shell, he carefully assists his partner to change his home, also showing how greatly he appreciates the union. To other examples of this sort of partnership we have referred elsewhere in an account of the additions which have been made to the museum of the Royal College of Surgeons of England during the past year. An acacia tree finds itself in danger of destruction by ants and other insects, and enlists in its service a tribe of ants, who are not only innocuous, but ready to fight for the plant and keep off its foes. But the ants are true mercenaries, and will not serve without pay, and for them the tree provides food and shelter—hollow appendages (stipules) to live in, and nutrient fluids on which they may feed. Then, when the foes appear, they rush out and drive them off. The allied phenomena of parasitism, symbiosis, and commensalism illustrate in a marked manner the interdependence of organisms, and bring home to us in a picturesque manner the fact that few are able to live only for and by themselves, but that it is the common lot by serving others to serve ourselves.—*The Lancet.*

Herniotomy for Strangulation in Infants.—Notwithstanding the very rare occurrence of herniotomy on an infant in the practice of any single surgeon, Dr. Stern has been able to add to a collection of 99 such cases, made by Knobloch in 1890, no fewer than 54 fresh cases taken from journals and hospital reports. Of the total number, 138 were cases of inguinal, and 14 cases of umbilical hernia. The remaining case was one of femoral hernia. In 110 cases the patient's age was under twelve months. The mortality in the cases of operation for strangulated inguinal hernia was about twenty-eight per cent. The two tables taken together show that the mortality after operation for this form of hernia has, since the introduction of the antiseptic method, been reduced from thirty-three to about twenty-one per cent. The latter proportion, however, is regarded by Stern as too high, since in some cases the death could not be attributed to the results either of the strangulation or of its surgical treatment. He states that in his own list of cases the percentage of deaths from the hernia is not higher than 13.6. The prognosis of herniotomy for strangulated inguinal hernia, therefore, is less unfavorable in infants than in grown-up subjects, as in the latter the mortality under antiseptic conditions is about nineteen per cent. In the total number (14) of cases of umbilical hernia the mortality was fifty per cent., and in those cases (11) which were treated antiseptically, 36.3 per cent. In considering the difficulties of diagnosis in cases of strangulated hernia in young infants, the author remarks that in many of his collected cases the occurrence of urinary retention was noted. He holds that in doubtful cases the hernial rings should be explored, and that when the symptoms of strangulation are clear, herniotomy should not be delayed after a warm bath and taxis with the patient under an anæsthetic have proved useless.—*British Medical Journal.*

The Influence of the Liver in the Development of Pancreatic Diabetes.—Although we have learned that certain lesions of the central nervous system and destructive changes in the pancreas respectively are attended with glycosuria, the etiology and pathology of diabetes mellitus are yet unexplained. Whatever the chemic and metabolic changes upon which the excretion of sugar in the urine depends, there is evidence that no small part in the morbid process is played by the liver, of whose multiplicity of function we really know comparatively little. There is good reason for believing that under normal conditions the liver either stores up or converts into other bodies a substance allied to sugar, and which, under certain morbid conditions, appears in the urine as glucose. Additional evidence of the influence of the liver in the development of diabetes is furnished by the results of some experiments detailed at a recent meeting of the Berlin Physiological Society by Marcuse, who undertook to determine if the dia-

betes that appears after extirpation of the pancreas manifests itself in case the liver is also removed. As the animals experimented with were likely to die sooner in consequence of the two operations than after extirpation of the pancreas alone, the question arose as to whether or not the animals would live long enough to afford time for the development of the diabetes. To decide this point a series of observations were made upon nineteen frogs. It was found that in the twelve of these in which diabetes developed, this appeared within the first day or two, the animal living on an average for five days. The proportion of sugar contained in the urine, as determined by polarization, equalled 9.4 per cent. In a second series of almost parallel cases, both liver and pancreas were removed, with the result that in not one of the animals did the diabetes develop. These animals lived for from one to five days after the operation. The amount of urine excreted was considerable, though not so great as in the case of the animals from which the pancreas only had been removed. In explanation of the influence of the liver in the development of the diabetes that follows removal of the pancreas, it is suggested that there is formed in the liver a substance that, while not itself sugar, is yet of importance in the development of diabetes (perhaps a sugar-forming ferment), or that certain elements in the blood that are acted upon by the liver remain in the circulation after extirpation of this organ, and bring about decomposition of the sugar present after extirpation of the pancreas.—*Medical News.*

The Treatment of Cystitis in Women.—According to Dr. Lutaud, the treatment of cystitis in women presents important characteristics, not only because the etiology of the affection is distinct, but because it often occurs with remarkable suddenness and acuteness. This inflammation is often the consequence of confinement or of the traumatism of an operation. Sometimes a very insignificant matter will cause it, such as the application of a tampon of gauze or wadding to the neck of the uterus, which induces a very painful vesical tenesmus. There are two distinct varieties, the acute and the chronic. In the former, the first indication consists in quieting the tenesmus and the pain. The medication is above all local; sedatives are used, opium and belladonna being especially indicated. The following suppositories are prescribed: Morphine hydrochloride, cocaine hydrochloride, each, three-twentieths of a grain; extract of belladonna, three-fortieths of a grain; cacao butter, forty-five grains. One of these should be used every four hours until the tenesmus and the pain have disappeared. Belladonna may be replaced by hyoscyamus if morphine or opiates are not well borne, and the following formula substituted: Cocaine hydrochloride, three-twentieths of a grain; extract of hyoscyamus, three-tenths of a grain; cacao butter, forty-five grains. Three or four of these suppositories may be employed during twenty-four hours. Rectal injections of laudanum are very useful. If there is insomnia, chloral may be given, always in enemata, and the minimum dose should be sixty grains for an adult. This formula is advised: Chloral hydrate, sixty grains; yolk of an egg; water or milk, two ounces and a half. Hypodermic injections of three-twentieths of a grain of morphine are still better for quieting the paroxysms of pain. Poultices, hip baths, and fomentations on the hypogastrium, are useful adjuvants to the local treatment, which is to be preferred to general treatment during the acute pains. Topical applications and anodynes may also be applied in the vagina. When it is a question of combating inflammation of the neck of the bladder, belladonna or cocaine may be employed as follows: Camphorated lanolin, four hundred and fifty grains; extract of belladonna, thirty grains. This is spread on a tampon of wadding and introduced night and morning into the vagina. When the pain is very sharp, a small tampon of wadding saturated with a solution of fifteen grains of cocaine hydrochloride in three hundred grains of distilled water may be employed. Treatment by the stomach should be cautiously employed during this period. Aside from hypnotics, there are very few remedies to suggest. No benefit is obtained from balsams. Oxalic acid has given the author only doubtful results in women, especially during the acute period, although he has seen painful symptoms ameliorated by the prolonged use of the following mixture: Oxalic acid, eight grains; syrup of bitter orange peel, four hundred and fifty grains; distilled water, three ounces. A dessertspoonful of this is to be taken every four hours. During the chronic period local and general medication must be employed at the same time. When inflammatory and painful symptoms are diminished, intra-vesical medication may be applied and afterward irrigation. A rubber or a glass probe, perfectly aseptic, is introduced, and to the end of it a syringe, holding from three to four ounces, is attached. Antiseptic solutions are used in preference, such as: Boric acid, six hundred grains; sodium borate, seventy-five grains; distilled water, a pint and a half. A rapid jet should be pushed through the syringe, which is then drawn away to allow the liquid to escape. Not more than an ounce and a half should be injected at a time, and it is still better, when the bladder is irritated, not to inject more than an ounce. Dr. Lutaud does not advise injections of nitrate of silver; he prefers iodoform, the action of which is more efficacious, especially in cystitis of blennorrhagic origin. He employs the following method: Washing with a solution of boric acid first, then an injection of four ounces of tepid water to which has been added a teaspoonful of the following emulsion: Powdered iodoform, four hundred and fifty grains; glycerine, six hundred grains; distilled water, three hundred grains; tragacanth, four grains. Blue pyoctanin has been suggested by Neucki, of Warsaw, in injections, for blennorrhagic cystitis. As with all vesical injections in women, it should not be used except in chronic cystitis. Dr. Lutaud has obtained good results with the following solution: Blue pyoctanin, fifteen grains; boiled distilled water, a pint and a half. This is to be injected night and morning, and its use should be continued, if it is well borne, during a period of from ten to fifteen days. General medication is useful in chronic cystitis. Dr. Lutaud has had occasion to try pichi (*Fabiana imbricata*) in cystitis following gonorrhœa in women, and obtained good results. The following mixture was prescribed: Extract of pichi, one hundred and fifty grains; tincture of Cannabis indica, thirty grains; linden water, three ounces and three-quarters. A desertspoonful of this is to be taken every four hours. Another formula, in which buchu is associated with hyoscyamus and ammonium bromide, is the following: Ammonium bromide, one hundred and fifty grains; tincture of hyoscyamus, seventy-five grains; fluid extract of buchu, one hundred and fifty grains; distilled water, two ounces. A teaspoonful is to be taken every four hours. If there is pus in the urine, the following drink is prescribed: Benzoic acid, fifteen grains; orange-flower water, an ounce and a half; boiled water, twenty-eight ounces; sugar, three ounces. This is to be taken by the glassful between meals.—*Journal de Médicine de Paris.*

Southern Illinois Medical Association.—The twentieth semi-annual meeting of the Southern Illinois Medical Association was held November 15th and 16th, in Duquoin, and was called to order at 10.30 A.M., by President Dr. McKenzie. There were about twenty-five members present out of a total membership of one hundred. The address of welcome was delivered by Dr. L. Dyer and Professor C. W. Harris, responded to by Dr. Mitchell, of Carbondale. Ten papers were read.

MEDICAL RECORD:

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NAVAL STAFF RANK.

THE bill now before Congress to reorganize the personnel of the Navy and Marine Corps of the United States is calculated to do great harm in many directions. The Medical Corps particularly will be placed in an anomalous and degraded condition. Bad as it is already, it will be in a still worse condition if all the absurd and unreasonable provisions become part of the proposed law. It would indeed seem to be the purpose of the framers of the bill to so heap indignities upon the Medical Corps as to make positions therein almost untenable by the defiantly invidious distinctions in favor of the line. Not content with the fact that rank in the Medical Corps is relative only, it is proposed that the grades be lowered and the meagre and corresponding privileges of the same be proportionately curtailed.

The sole officer in the Medical Corps on the active list having the relative rank of commodore, is the Surgeon-General. The bill providing for the abolition of this rank promotes all the present occupants of that grade in the line to the next higher, that of Rear Admiral, while with the staff corps there is an actual drop to the next lower grade—that of Captain. This of itself abolishes all distinction for the ranking officer of the Medical Corps, virtually placing him on a par with the medical directors, with the cool courtesy of retiring in that grade. No argument is made in support of such a measure, not even that of public economy, for indeed the latter could not be, inasmuch as the salary of the Surgeon-General is fixed by law. On the contrary, however, the creation of the ten additional Rear Admirals for the line, contemplated in the bill, will involve an additional expense of $10,000 per annum.

Then again in regard to the time for retirement, with the well-earned privileges pertaining thereto, a marked distinction is made in favor of the line as compared to the staff officers. The line officer receives his education from the Government, the medical man educates himself, enters the service when he is older than his brother of the line, and yet has virtually to serve much longer before the period for retirement arrives. The line officer can count his time before the medical officer is able to do so, and thus the latter becomes the loser in a double sense.

The line officer may thus retire as early as the age of fifty, while the staff officer, who has educated himself, can never do so before fifty-six, and often not until sixty-two, the latter being the time for compulsory retirement.

Another point in the bill deserving of notice is the interference with the proper professional functions of the surgeon by such, even junior line officers, as may be deck officers at the time. While such breaches of consistency are not apt to occur in the ordinary run of affairs, they are rendered quite possible by the proposed new relations of the different corps. The whole trouble in this direction comes of the elastic and meaningless construction of the so-called privileges of relative rank—a something to speak about, but nothing to act upon. No one outside of the Navy of the United States would, for a moment, think of placing authority concerning medical matters in any other than medical hands. Wherever there is responsibility there should necessarily be power and force to sustain it. Nowhere but in the United States Navy is such interference on the part of the line officers possible. Everywhere else the surgeon for the soldier and the sailor is supreme in his own department. Everywhere else the surgeon has the self-respecting position of positive rank, is on an equal footing with the corresponding officer of the line, and can even sit with them at the same table and be considered a gentleman of equal standing.

If this proposed bill becomes a law the outlook for the efficiency of an important corps of the Navy is a very serious one. Far from being attractive now for young medical men desiring to enter the service, it will be made still less so. For years the candidates for examination in the medical corps have been growing fewer and fewer, notwithstanding the widest advertising of existing vacancies. This condition of affairs is by no means due to the fact that service as it should be in the Navy is not considered within the range of the laudable ambition of a well-educated man, but simply that the restrictions to his usefulness, the petty thrusts at his self-respect, the slow advancement, and poor pay are the ruling and potent arguments to the contrary. What is asked is not that any extra expense shall be incurred in giving the naval surgeon his due, but that in rank and pay he be placed on the same footing as his brother in the army. If this is not done and proper appreciation is not shown for the valuable and indispensable work of a learned profession, the arm of the service representing it will not only be irretrievably crippled, but will eventually look in vain for applicants to fill its already sparse ranks.

CAR VENTILATION.

No one who, for his sins, has to travel by rail in winter, will dispute the fact that much is yet lacking in the way of the proper ventilation of passenger coaches. In this respect the drawing-room and sleeping-cars are much worse than the ordinary day-coaches. In the latter, especially on accommodation trains, the doors are constantly being opened and a breath of fresh air must occasionally slip in, but on the vestibuled train there is none of this relief, everything is hermetically sealed, and neither fresh air can enter nor carbonic acid and other pulmonary exhalations escape. Doubtless the remedy for this is difficult, but it is not impossible. Car-builders know what is needed, and they will

find the means to supply it, whatever the additional cost of construction may be, when they find they must.

A committee of the Master Car-builders' Association not long since prepared a report on this subject, a part of which is quoted by Dr. G. P. Conn, in a paper on car sanitation, read at the Montreal meeting of the American Public Health Association. In this report the committee summarizes the ideal condition of car ventilation as follows:

"1. The admission of thirty cubic feet per minute per passenger of fresh air, and the carrying off of an equal amount of foul air, summer or winter.

"2. The fresh air so admitted must not be moving at a speed of more than three or four miles per house in winter-time.

"3. Fresh air admitted must be of a temperature in winter-time of about seventy degrees F.

"4. Fresh air so admitted in winter-time must have added to it a proper degree of moisture for the temperature at which it is admitted, according to the average humidity of the atmosphere, when at seventy degrees in the climate in which the cars are running.

"5. No system of winter ventilation can be more successful, unless means for the fresh-air supply are provided independently of, and separately from, the windows and doors, as well as the ventilators for carrying off the foul air.

"6. The fresh warm air should be distributed through as many openings and as low down as it can be conveniently arranged for, and the foul air should be carried off through as many small openings in the roof of the car as can conveniently be arranged for in winter.

"7. The ventilation should be entirely independent of the speed of the train, and act as well whether the car is standing or running.

"8. The ventilation should be so arranged that there will be a plenum or slight excess of pressure inside the car, so that all drafts will be outward instead of inward, and smoke and dust thus excluded.

"9. It is most desirable that double windows should be used, and so arranged that they can be locked fast in winter-time, but readily opened in summer-time.

"10. It is most desirable that an inside swinging-door be used, so as to form an air-lock or inside vestibule, to prevent the admission of cold air and dust every time the doors to the platforms are opened."

No one will probably find fault with these conclusions, for they are eminently sound, and they prove that car-builders can conceive of an ideal even if they do not strive to attain it. The problem now remains, how can travellers profit by the car-builders' knowledge?

Two Excellent Hints for Practitioners.—Dr. Cocksedge, of Wales, places the following "tips" at the disposal of his brethren: If you have a fatiguingly deaf patient to talk to, place the ear-pieces of your binaural stethoscope in the patient's ears, and talk into the chest-piece, and you have an excellent ear-trumpet. If you leave your spectacles at home, being old and apresbyopic, make a hole with a pin in the corner of your visiting card, and you can read your clinical thermometer or anything else.—*Medical Press.*

LODGE PRACTICE.

A CANADIAN judge has recently given a decision that should be of interest to lodge doctors (*Canadian Practitioner*). In the case in question, "according to the general by-laws of the lodge, no member was entitled to any 'benefits' if incapacitated for work by venereal disease, or any other contracted in consequence of his own wrongdoing. The regular surgeon of the lodge attended a member for certain sequelæ of syphilis, and sent in his bill in the ordinary way. Payment being refused, he sued his patient, but was nonsuited by the judge on the ground that the contract between the doctor and the lodge did not show that any exception was to be made in such cases." The moral of this is that lodge doctors must be very careful in the wording of their contracts. Unless the exception is specified, he may be called on to do obstetrical and major surgical work, and to give treatment of special and difficult character. The lodge doctor gets perhaps a dollar a year for each member. For this dollar he may, therefore, have to amputate the leg, or sit up all night with a parturient woman. "To the physician," says *The Canadian Practitioner*, "who determines to do lodge practice, we have only to say your responsibilities will depend upon the provisions of your contract. In deciding to give up certain prerogatives of manhood, look into the matter in a business way, and make the best terms you can. The best will always be poor enough."

THE INGESTION OF URIC ACID.

DR. ALEXANDER HAIG resumes the subject of uric acid and its relation to tissue changes in an article on the "Introduction of Uric Acid into the Body" (*British Medical Journal*, December 8, 1894). Dr. Haig finds that if one takes uric acid by the mouth the effect is at first to stimulate and produce a feeling of well-being. This, he says, is due to the fact that the acid thus introduced lessens the excretion of uric acid and clears it from the blood by making that fluid less alkaline and thus less capable of holding the substance in solution. After a time, however, the blood resumes its alkalinity, uric acid is taken up, and the various results such as lassitude, headache, high tension pulse, etc., of uric-acid excess are brought about.

Dr. Haig asserts that in an ordinary diet containing meat, soup, fish, etc., a man takes about three grains of uric acid into his system daily, or about one thousand grains a year, or in twenty years three pounds. The writer adds, that by proper diet the amount of uric acid taken in with the food can be reduced at least one-half. By this much, he thinks, one can reduce the liability to the uric-acid diseases, such as gout and rheumatism, later in life.

In order to cut down the uric acid ingested as food one must leave out of his bill-of-fare soup, beef-extracts, fish, meat, tea, and coffee. The logical inference of Dr. Haig's statements would therefore be vegetarianism. Since many gouty and rheumatic people do extremely well on a meat diet, there must be a fallacy somewhere in the doctor's arguments. Whoever explains this fallacy will explain also the fact that some doctors recommend a nitrogenous diet to gouty and

lithæmic patients, while others advise just the reverse.

It is probable that the secret of it all lies in the fact that a nitrogenous diet is usually a low diet, and that a small amount of digestible food, just enough to sustain nutrition, forms the best diet irrespective of any precise regulation as to its quality. Most people of uric-acid habit eat too much.

PATHOLOGICAL ALTRUISM.

THE spirit of humanitarianism, which we are told by Mr. Benjamin Kidd is the dominant and saving character of modern social life, shows itself in fantastic as well as in serious and well-directed efforts. The care of the poor, the preservation of health, the prevention of disease, the establishment of homes, workhouses, hospitals, and asylums are all indications of social progress and a genuinely humane spirit. But along with this there are certain pathological manifestations of humanitarianism which often do much evil and always cause much distress to intelligent minds. Such efforts are shown in anti-vaccination societies, anti-vivisection societies, and intemperate advocates and enforcers of an impossible abstinence from poverty, alcohol, tobacco, Sunday newspapers, corsets, etc.

The victims of pathological altruism are always seeking new evils to attack and organizing new societies to promulgate their doctrines.

It looks as though England would soon be the home of a new society for supervising the treatment of patients in hospitals. Mr. W. T. Stead, who among his perhaps saner vagaries does not approve of Chicago, has recently issued a Christmas number of his *Review* in which he attacks the hospital physician. He introduces among his characters a doctor, and prints this interesting dialogue:

"'But what experiments are you making, doctor?' 'Invaluable experiments,' said he; 'I am cultivating the bacillus of typhoid fever. I have converted this hospital into a physiological laboratory. The other day I inoculated five perfectly healthy subjects. It is true that they were healthy—that is, they were healthy at the time I pricked them—but they were not healthy five minutes afterward; and after all it is only a question of time. They took typhoid fever in due course, and are going through all its stages.' Ethel's eyes were dilated with horror. 'You don't mean to say that you give healthy people typhoid fever merely in order to experiment?' 'Of course;' replied he, 'we all do it. What are the great London hospitals for but to collect the poor in order that they may be used as experiments for the benefit of the rich? Surely you don't need me to tell you that.' And so on. Needless to say that this doctor came ultimately to great wealth. His discovery of the possibility of preserving the microbes of cholera in ice, and the power which that gave him of regulating the population in accordance with the commercial needs of the country, was in itself enough to render his services of great value to the coming plutocracy."

We do not propose to criticise Mr. Stead's medical views of hospital physicians or to attempt a defence of the doctor. Neither criticism nor defence is needed. The untruth and unfairness of the picture drawn are too gross. But Mr. Stead's performance has an interest as an illustration of an unbalanced, ill-informed, and mischievous mind.

MEDICINE IN NEW YORK EIGHTY YEARS AGO.

ALL physicians of the present generation—or, at any rate, all who have had personal experience in the matter—know how difficult it is for anyone to establish himself in practice in New York City. But probably not all who know this understand that a similar condition of over-competition has existed in this city since the days when it first became the metropolis of the country. Yet such is the fact.

We recently saw a letter, written eighty years ago, in which the conditions to be met by a would-be practitioner in New York are stated in terms that might be applied without alteration (except, of course, as to the actual number of competitors) to the conditions of to-day. The letter was written by a then prominent lawyer of New York, and addressed to a young physician of his acquaintance who contemplated settling in the city, and who had asked advice as to the feasibility of the project. The writer of the letter, though not himself a physician, was fully informed as to the status of medical affairs in the city, as proved by another letter he had previously written, in which the merits of the different medical schools in New York were fully canvassed, a letter to which we may make more extended reference at another time. What, then, is the advice which he is able to give the aspiring young physician? Let us see.

Writing under date of August 10, 1814, he says:

"I have given your letter close attention, and after all, I find myself somewhat at a loss what to say. New York is preferable to any other place, at least to any place in the country, if a physician can only once get footing. Dr. ——, of whose capacity and popular manners I need say nothing to you, made an experiment, as you know, of a little more than two years, and certainly did not in that time succeed. I very much doubt whether he supported himself during that period, taking it together (but this in confidence). Had he remained seven years longer, I doubt not that he would have found himself in lucrative practice at the end of that time. . . . The only way I have known young physicians rise into early notice and practice is by connecting themselves with some older member of the profession, who soon has retired and left them in possession of his business. I am told there are now in this city upward of five hundred physicians, most of whom find difficulty enough in earning their daily bread."

There is more in the same vein, and the only grain of encouragement the writer feels justified in offering is this: "Notwithstanding [all the discouraging facts noted] I am by no means certain that a young man of genius, learning, and steady habits might not make his way among them [the host of competitors], especially if he happened to pitch his tent on a favorable spot."

That surely is not a very roseate presentation.

"Genius, learning, and steady habits," combined in one individual, ought, one would think, to carry the individual almost anywhere, yet even this cluster of accomplishments was held to give their possessor only a fighting chance in New York. This was apparently a fair estimate of the conditions that marked the physician's struggle for existence in the metropolis in 1814; it is just as fair an estimate for 1894.

News of the Week.

New York Ophthalmological Society.—At the annual meeting of this society the following officers were elected for the ensuing year: *President*, Dr. F. N. Lewis; *Vice-President*, Dr. H. D. Noyes; *Secretary*, Dr. F. D. Skeel; *Committee on Admissions*, Drs. Mathewson, Dennett, and Roosa.

Dr. F. J. Quinlan.—At a recent meeting of the Faculty of the New York Polyclinic, Dr. Francis J. Quinlan was elected Adjunct Professor of Laryngology and Rhinology.

Dr. A. B. Cook, of Louisville, formerly professor of surgery in the Kentucky School of Medicine, died on January 2d, aged sixty-five years.

The Lane Hospital, at San Francisco, Cal., has a unique record. It was built by a surgeon, Dr. L. C. Lane, at a cost of $160,000, and when it opened, on January 2d, Dr. Lane performed the first surgical operation. It has received as endowments, from Captain J. M. McDonald, $58,000; from Claus Spreckels, $25,000, and from Mr. A. B. McCreery, $6,000.

A Good Example.—The city of Sydney, Australia, has imposed a fine of one pound sterling upon any person convicted of spitting upon the floor of public buildings or upon the street.—*Boston Medical and Surgical Journal.*

Dr. R. H. Cummins, of Wheeling, W. Va., died December 13th of diphtheria, contracted while in attendance upon several severe cases of that disease. He was a graduate of the University of Pennsylvania and a man of fine character. He met death fearlessly, a martyr to his chosen calling.

The Medical Department of Vanderbilt University recently distinguished itself by inviting pugilist James Corbett to lecture to its students on physical culture. Even astonished comment pales before the shameful fact.

Dr. Mary Woolsey Noxon, a well-known homœopathic physician of this city, died suddenly of apoplexy recently, while calling on a patient.

Proposed Legislation for the Board of Health.—The New York City Board of Health propose to ask the Legislature to amend the act now in existence with regard to the free distribution of vaccine for the relief of persons suffering from small-pox, the organizing of a corps of physicians to guard against the spread of the disease, and the sale for the city's benefit of whatever vaccine is left on hand, so as to include powers for similar use of antitoxin and treatment of diphtheria. An act covering the desired amendment has been prepared and will be forwarded to Albany by President Wilson.

Association of American Anatomists.—The Seventh Annual Meeting of the Association of American Anatomists was held in the Medical Department of Columbia College, New York City, December 28 and 29, 1894. The President, Professor Thomas Dwight, of Harvard Medical School, presided. Dr. E. C. Spitzka, of New York City, was Chairman of the Executive Committee; Dr. Burt G. Wilder, of Cornell University, Secretary of the Committee on Anatomical Nomenclature; Dr. D. S. Lamb, of the Army Medical Museum, Washington, D. C., Secretary and Treasurer. The Secretary reported the deaths of Dr. A. C. W. Beecher, of Jefferson Medical College, Philadelphia, and of Dr. Middleton Michel, of the Medical College of South Carolina; also the resignations of two members, making a membership of 103, which was increased to 114 by the election of 11 new members.

The following papers were read and discussed: 1. "The Best Arrangement of Topics in a Two Years' Course of Anatomy in a Medical School," by Dr. Gerrish. Discussed by Drs. Huntington, Frank Baker, Wilder, Bevan, Allen, Shepherd, and Lamb. 2. "History of the Development of Dentine," by Dr. Carl Heitzmann, of New York City. 3. "On the Value of the Nasal and Orbital Indices in Anthropology," by Dr. Allen. Discussed by Drs. Wilder, Huntington, and Dwight. 4. "Some Characterizations of Vertebrate Groups in Standard Works," by Dr. Wilder. Discussed by Drs. Baker, Dwight, and Allen. 5. "The Comparative Anatomy of the Cerebral Circulation, with the Exhibition of a Series of Anomalies of the Circle of Willis," by Dr. Joseph Leidy, of the University of Pennsylvania. This paper was read by title in the absence of the author. 6. "Convolutions of the Hemispheres of Elephas Indicas," by Dr. Huntington. Discussed by Drs. Wilder and Baker. 7. "Classification of the Tissues of the Animal Body," by Dr. Baker. Discussed by Drs. Heitzmann, Wilder, Dwight, and Lamb. 8. "Significance of Anomalies," by Dr. Dwight. 9. "Some Muscular Variations of the Shoulder Girdle and Upper Extremity, with Especial Reference to Reversions in this Region," by Dr. Huntington. 10. "Some Anomalies of the Brain," by Dr. Wilder. 11. "The Correlation between Specific Diversity and Individual Variability, as Illustrated by the Eye Muscle Nerves of the Amphibia," by Professor C. J. Herrick. The last four papers were discussed by Drs. Baker, Shepherd, Wilder, and Lamb; Drs. Shepherd and Lamb illustrated their remarks by specimens of anomalies. Dr. Wilder exhibited a frog from which the cerebrum had been removed, and made remarks thereon.

Oysters and Typhoid Fever.—At a meeting of the State Fish and Game Commission held in Albany, January 4th, the State Oyster Inspector presented a report in which he stated that he had fully investigated the subject of the possibility of oysters becoming contaminated with typhoid fever germs while undergoing the "floating process," and that he had found but one stream, situated on Staten Island, where such danger existed. He was ordered by the Commissioners to demand a discontinuance of the use of this stream.

A Skin Disease Peculiar to Foot-ball Players.—The Council of the Medical Officers of Schools Association of England are desirous of obtaining information as to the etiology, nature, and treatment of the skin affection which is reported to be at the present time prevalent among foot-ball players. It is believed to be contagious, and occurs principally on the face, ears, and neck, sometimes on the hairy scalp. It goes through the following stages: erythema, papule, vesicle, and purulent crusts, the latter, on the head, having the appearance of impetigo contagiosa (porrigo).

The Cleveland Medical Library Association.—On November 27th about thirty of Cleveland's representative physicians met and effected the organization of the "Cleveland Medical Library Association." The following officers were elected: *President*, Dr. J. E. Cook; *Secretary*, Dr. P. Max Foshay; *Treasurer*, Dr. O. F. Gordon; *Librarian*, Dr. C. A. Hamann. *Trustees:* Drs. D. P. Allen, H. K. Cushing, H. J. Lee, I. N. Himes, W. W. Holliday, H. E. Handerson, W. A. Knowlton, M. Rosenwasser, O. B. Campbell.

The Eastern Shore Medical Society, Virginia, met at Eastville, Va., December 7th. Dr. E. W. Robertson, of Onancock, Va., presided. The meeting was one of interest and the attendance was large.

The Philadelphia Hospital Trouble.—We learn that Dr. Hobart A. Hare has declined to accept the position of attending physician to the Philadelphia Hospital, made vacant by the enforced resignation of Dr. Judson Daland. Good for Dr. Hare! The Philadelphia physicians show a loyalty to each other which deserves imitation elsewhere.

Dr. Edward J. Kurtzman, of this city, suddenly fell dead on the night of December 30th while returning from a night call.

Treatment of Goitre by Thyroid Feeding.—Professor Bruns has just published the result of his treatment of twelve persons affected with goître by ingestion of the thyroid gland of sheep or calves. Of the total number, only three remained refractory to the treatment, the remaining nine being either cured or considerably relieved. The dose was from one to two drachms, enclosed in a wafer or a sandwich, and repeated about once a week. By this means Professor Bruns cured four children completely, between the ages of four and twelve. At the end of a fortnight a marked decrease in the size of the tumor was observed, and a month subsequently it had entirely disappeared. In the fifth case, that of a boy, aged fourteen, the goître was accompanied by a cyst. The goître was removed, but the cyst was unaffected by the treatment. In four other cases the result was equally satisfactory. Professor Bruns advises not to exceed two drachms of the thyroid gland, given once a week to the adult, and five drachms to children. In these latter, in any case, the treatment succeeds the best; whereas in aged persons the goître is but exceptionally amenable, for reasons easily apparent.

Dr. St. John W. Mintzer, who rendered good professional service during the Civil War, and who for a time resided and practised medicine in Philadelphia, died, on December 26th, at his home, China Hall, Bucks County, after a protracted illness, aged sixty-two.

Obituary.

PROFESSOR ALFRED L. LOOMIS, M.D., LL.D., NEW YORK.

THE death of Professor Alfred L. Loomis occurred, after a very brief illness, on the morning of January 23d. He was attacked on the Sunday previous with symptoms of pneumonia, which, after the first day, steadily grew more and more grave. To his many friends here and elsewhere the news came with startling suddenness, and it is difficult to realize the extent of his loss in many of the medical circles in which he was such a leading and active figure.

Dr. Loomis was born in Bennington, Vt., October 16, 1831. His early education was obtained at Hoosic Falls and Rochester, N. Y. He graduated from Union College in 1850 and took the A.M. degree there six years later. He graduated from the College of Physicians and Surgeons in 1852. For two years he had an interneship in the hospitals of Ward's and Blackwell's Islands, and then began a general practice in New York. In 1859 he was made visiting physician at Bellevue, and in 1862 lecturer on physical diagnosis at the College of Physicians and Surgeons. Among his publications are: "Lecture Introductory to the Course of 1871–72 in the Medical Department of the University of the City of New York;" "Lessons in Physical Diagnosis," 1872, ten editions up to 1893; "Diseases of the Respiratory Organs, Heart, and Kidneys," 1875; "Peritonitis," 1875; "Lectures on Fevers," 1877; "Diseases of Old Age," 1882; "A Text-book of Practical Medicine," 1884; also, "Climatic Treatment of Pulmonous Phthisis," "Physical Exploration of the Abdomen;" "Physical Signs of Diseased Conditions of the Liver and Spleen," and "On the Use of Opium in Acute Uræmia and Convulsions."

The University of New York conferred on him the degree of LL.D. He married in 1858 Sarah Patterson, of Hoosic Falls, N. Y., and by her had two children. In 1887 he married Mrs. John D. Prince. She and his two children survive him. The children are H. P. Loomis and Mrs. John D. Prince, whose husband is a son of her stepmother. Dr. Loomis was for over thirty years visiting physician to Bellevue Hospital and consulting physician to numerous other public institutions, and was a member of all the leading medical societies. His most energetic activities were devoted to the medical department of the University of New York. When that was burned out, Dr. Loomis was instrumental in furthering the movement to Twenty-sixth Street. Through him "an unknown friend of the University" gave, in 1886, $100,000 to build and equip the Loomis Laboratory, which is a worthy monument to his name and affords every opportunity for the study of scientific bacteriology. This friend, it has been supposed, was Mrs. John D. Prince, widow of the Wall Street broker. Mrs. Prince, in 1887, became the second wife of Dr. Loomis. Dr. Loomis was professor of pathology and the practice of medicine in the University of New York since 1868. For two years before that he was adjunct professor of the theory and practice of medicine. He was an admirable business man, and in his practice he acquired an income generally conceded to be one of the greatest ever secured by a physician in this city. He took an active interest in the Academy of Medicine, of which he was President for two terms up to two years ago. It was largely through his efforts that it became possible to put up the present building.

The Bureau of Charities and Correction has decided that a tablet be placed in the Medical Board room of Bellevue Hospital as a token of respect to Dr. Loomis's memory, also that the flags of the Bureau be placed at half-mast until after the day of the funeral, and that the entrance to Bellevue Hospital be draped in mourning for thirty days.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 17, 1895.

D. B. St. John Roosa, M.D., President, Afterward Joseph D. Bryant, M.D., in the Chair.

Nominations for Vice-President.—A vacancy having been left in the office of vice-president by the election of Dr. Bryant to the presidency, Drs. Daniel Lewis, Ellsworth Eliot, and Virgil P. Gibney were nominated. Dr. Eliot declined.

Valedictory Address by the Retiring President was delivered by Dr. Roosa (see page 107).

Inaugural Address by the President-Elect.—Dr. Joseph D. Bryant opened his address essentially in the following words: The foremost duty of one who is honored by his fellowmen is to express his grateful appreciation for the manifestation of confidence and esteem, and to pledge his earnest thought and conscientious labor to the support of the best interests of the charge entrusted by them to his guidance and care. The fact that you have deemed it wise to honor me, and, too, out of proportion to my merit and expectation, by placing me at the helm of affairs in the Academy of Medicine, is a tribute of regard which, while it emphasizes the value of past conscientious effort, none the less admonishes one of the necessity of continuous and untiring endeavor. Indeed I thank you sincerely for this earnest of your confidence, and beg to express the hope that no official action of mine will cause the lodgment of a well-founded regret in the mind of anyone.

Referring then in a general way to the motives which should control us in the conduct of the Academy's affairs, the president reminded the members of the fact, to begin with, that decided differences of opinion were inevitable products of earnest discussion when engaged in by sincere and active minds, whether the subjects under discussion related to politics or to unsettled scientific questions. But the results of deliberate conclusions, when secured by fair means, demanded the sincere support of all who appreciated the importance of wise control, good order, and well-founded prosperity. The endurance and thrift of every organization depended on the honesty, the harmony, and the productiveness of the administration of its affairs. Unfortunate indeed when, for any reason, the canker of discontent or of indifference fastened itself on any organization. Then its material assets—the landed, the structural, and the monetary—were likely to fall with its usefulness.

There were two assets of the Academy to which he wished to call especial attention because each should be cultivated with care and treated with circumspection and forethought. He referred to the books in the library and to the members. The library should be regarded as a legacy from the present to the future of the Academy, and from the present to the future of medical achievement, and indomitable activity should be exercised to secure a sum of money, the income of which should be sufficient to maintain the library on the footing required to keep pace with medical advancement. The larger and more comprehensive the library became, the greater and more enduring would be the fame of the Academy and the measure of its beneficent influence. The other interests of the Academy should also be remembered, its financial exactions should be met with promptitude, and advice on public questions be willingly though discreetly given.

The fact should not be disregarded that there were some members who found it difficult to meet their annual obligations to the Academy. For these the president-elect expressed sincere sympathy, and bespoke for them the indulgence and the aid of the more fortunate members of the organization.

A prompt and large attendance would beget a deeper, a more active and lasting interest, and a more intelligent appreciation of the Academy's work. Finally, he asked that we bear with one another patiently at all times, being assured that all differences would be honest differences, and all conclusions sincere. Should he be able at the end of his term of office, following such distinguished immediate predecessors as Drs. Jacobi, Loomis, and Roosa, to point to increased facilities, increased membership, and increased good-fellowship, then indeed would he be gratified and feel that he had not labored in vain.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting December 17, 1894.

Samuel B. W. McLeod, M.D., President, in the Chair.

How to Examine Sick Children.—Dr. J. Lewis Smith read a paper with this title, although the title was not adhered to strictly. The frequency and fatality of diseases of childhood, and the fact that some of them did not occur at an advanced age or presented different characteristics, made them of special interest. He had heard skilful physicians, who were much sought for in practice among adults, say they did not like to treat sick children. To be a successful pediatrist required much patience and knowledge of childish ways. If the patient were under five years, the physician on entering the room should take a seat a little distant, and without appearing to notice it, first obtain the history from the mother or nurse, and it would be found that usually the suspicious glances of the child at the stranger would cease when it believed itself not to be noticed, and it would begin to act in a natural way and manifest more clearly the symptoms of the disease. While still at a distance, the physician could observe the prominent symptoms of the disease, and thus with the aid of the history obtained from the mother he could often make the diagnosis, and find it confirmed by a closer examination made later. The previous history, the mode of commencement and progress of the present illness, should be obtained. Aural troubles were among those which often could be best located from a distance, when it would be observed that the infant rolled its head, and from time to time put its finger to the ear. The pediatrist must not value his time too highly. Finally, quietly approach the child for a closer examination. Avoid causing alarm. The percussion-hammer, lead-pencil, or watch could be held out as a plaything. One of the most distinguished pediatrists of this country always approached his patients with a watch in hand, the chime of which he would first set in motion.

The Normal Temperature of the Child.—Dr. Smith had had some observations made with regard to the normal temperature of the child, which he believed had not been shown by statistics in text-books. Under six months the rectal temperature had been found, among a large number of healthy infants at the Infant Asylum, to average 98° F.; the axillary temperature, 98.3° F. Between six and twelve months of age, rectal temperature, 98.6° F.; axillary, 98.3° F. Twelve to eighteen months, rectal, 98.4° F.; axillary, 98.3° F. From eighteen to thirty months, rectal, 98.9° F.; axilla, 98.1° F. Dr. Smith thought these observations were important as furnishing a basis for judging of departures from the temperature of health.

Mental excitement was capable of causing a rise of temperature, a marked example having occurred in a child observed by him, in whom any cause for excitement resulted in a rise of five or six degrees above the

normal. Sudden and unaccountable elevations of the temperature continuing for some hours were often due to indigestion or constipation. He had frequently seen the temperature go down next day after moving the bowels.

The Normal Pulse.—In the same cases at the Infant Asylum the pulse was noted during health, and was found to average, under the age of six months, 125; from the sixth to the twelfth month, 124; twelfth to eighteenth, 115.5; from the eighteenth to the thirtieth, 111.8.

Respirations during Infancy.—The average number of respirations under six months had been found to be 44.8; six to twelfth month, 34.8; twelfth to eighteenth, 35.4: eighteenth to thirtieth, 29.8.

Average Time of Dentition.—With the aid of Dr. Purdy, he had kept records of the average time of appearance of the teeth in children at the out-door department of Bellevue Hospital, excluding cases of rickets, which were most common in Italians and next in negroes. In 200 infants without signs of rickets, the first tooth had appeared as follows: In 3 infants at two months, in 20 at five months; in 24 at six months, in 37 at seven months, in 28 at eight months, in 20 at nine months, in 14 at ten months, in 15 at eleven months, in 8 at twelve months, and in 1 at thirteenth months of age. Yet Sir William Jenner had said that if a baby did not get its first teeth by the ninth month it indicated rickets.

Against Cutting Gums.—The belief still prevailed to a wide extent that the cutting of teeth was not only a common cause of painful gums and poor appetite, but also of entero-colitis and other serious maladies which were often allowed to run along until beyond the skill of the physician. He thought our ancestors in the profession were to blame for the wide-spread impression that much disease was due to dentition, since at one time it was a common custom to incise the gums.

When practical, take the temperature in the rectum; if not, then in the axilla or inguinal region. Examine the head, chest, etc., in turn, as might be required. If the infant had been long sick there would probably be some depression of the occipital bone, especially before the ninth month of age. Dr. Sims had once believed that depression of the occipital bone was the cause of tetanus, but this view had been shown to be erroneous. The depression was due to diminution in the size of the brain from emaciation.

Look for indications of rickets. Cranial tabes occasionally gave rise to laryngismus stridulus. Examination of the fauces should always be made, and might enable one to diagnosticate scarlet fever, as well as diphtheria, etc. Examine the chest if there were the least acceleration of breathing. He used the new kind of stethoscope and percussion-hammer, to avoid approaching near the chest. If there were acceleration and no respiratory moan, it was probably bronchitis, not pneumonia or pleurisy, and the child would complain of the middle of the chest. Expiratory moan usually meant pneumonia or pleurisy, but was sometimes caused by indigestion and flatulence, in which event it would disappear with free movement of the bowels. In case of mitral regurgitant murmur, precystolic murmur, or the two combined, inquire for history of rheumatism. This disease was often denied by the parents, who, however, might recall complaint of "growing pains." The speaker did not believe there was such a thing as growing pain. Rheumatism was more apt to affect the heart in children than in adults. They often continue to go around, and the parents were unaware of the existence of the rheumatism.

Examination of the urine was often neglected, and he had in many cases found albumin and other signs of nephritis to account for obscure illness existing perhaps six months after a mild attack of diphtheria or scarlet fever.

Dr. George T. Harrison opened the discussion. He believed the examination of children required observation, discrimination, and the use of the senses to a degree demanded in hardly any other field of activity. Knowledge alone did not determine the capability of the pediatrist, but, as stated by the author, he must have insight into and adaptability to the individuality and childish character of his little patients, in order to first awaken confidence, love, and obedience. More reliance could be placed upon statements of facts by the mother and nurse than upon their conclusions. Popular impressions as to the influence of dentition and the change of life, constituted the *bête noire* of the profession. It was not always a simple matter to differentiate between bronchitis and pneumonia, and absence of expiratory moan was not sufficient to exclude the latter. Physical signs might also fail or be overlooked. Fever and then a sudden rise of temperature, might mean pneumonia.

Dr. J. Blake White warned against being misled by the conclusions of the mother when asked for the history. Grouping the symptoms in appropriate sequence up to the time of the examination, would aid in locating the lesion and in arriving at a correct conclusion as to the existing ailment. The next step was to gain the confidence of the little patient. Nothing required more tact. He differed from Dr. Smith as to the use of the stethoscope, feeling that the fewer instruments shown the less likelihood of frightening the child. His habit was to examine the back while the child lay on the mother's shoulder. Very often the sounds anteriorly would be transmitted to the ear placed posteriorly. In examining the throat, have the little one wrapped in a sheet, restraining arms and feet. The head might be held between the physician's knees, the body extended on the mother's lap.

Lancing Gums.—Dr. White believed in lancing the gums when they were swollen and inflamed, and were evidently the seat of irritation and pain. One should cut squarely down to the tooth. He had never seen any harm come from proper lancing, but had seen irritation follow improper lancing or failure to cut to the tooth.

The speaker had seen an erythema due to excitement, perhaps to the physician's presence, which had no relation to the disease. He advised taking the temperature by the rectum.

Dr. Illoway said the first thing he did, in order to save time, was to place the thermometer in the axilla, the mother holding the child's arm over its body. All one had to do to judge of the rectal temperature was to add one degree. He then got the history from the mother, holding her down to facts, and not placing too much reliance upon her statements as to these. Diseases of the brain gave signs on the forehead; of the respiratory tract, on the face down to the lower lip; of the abdomen, on the mouth and chin. Careful observation of the features would indicate which of the three regions was implicated. He then had the child stripped and examined the whole body, giving special attention to the seat of the major disease. He had long ceased to look for rheumatism in cardiac disease, believing the latter existed without the former. Broncho-pneumonia and capillary bronchitis presented two entirely different pictures.

Dr. Smith, in some concluding remarks, said he would not be willing to say there was an endocarditis in children independent of scarlatinous affection or rheumatism. As to lancing the gums, he thought one could get along as well without it. If the gums were red and irritated, there must be some other condition to account for the irritation. He did not think the physiological process of normal dentition was to be interfered with any more than any other physiological process.

A Treatment of Diphtheria upon Antiseptic Principles.—Dr. Charles G. Amende read a brief paper, supplementary to a former one, in which he gave fur-

ther experience with treatment of diphtheria by quinine internally, and local painting with boroglyceride, alum, and creosote solution. The applications could be made every two hours or oftener, and gradually diminished in frequency as the membrane disappeared. But chief credit was given the action of quinine, administered in rather large doses and continued until the temperature fell to 99° F. Out of over one hundred cases treated the past four years by this method, only four had died, and in these special circumstances were connected with the history.

Dr. Proben spoke against the method of treatment, saying that boracic acid was only mildly antiseptic and liable to early change; that the application could not reach the nose nor the larynx, and was less harmful than irrigation of the nose. The child's stomach ought not to have put into it any nauseous drug, especially quinine.

Nomination of Officers.—*President*, Dr. McLeod (renominated), Dr. George T. Harrison; *Vice-President*, Dr. A. D. Ruggles; *Recording Secretary*, Dr. P. B. Porter; *Corresponding and Statistical Secretary*, Dr. N. G. Bozeman (Dr. Van Arsdale declining a renomination); *Treasurer*, Dr. John Hinton; one *Member of Executive Committee*, to serve four years, Dr. T. H. Burchard and Dr. John A. Wyeth.

Correspondence.

MEDICAL AFFAIRS IN CANADA.

(From our Canadian Correspondent.)

MEDICAL COUNCIL ELECTIONS—THE FIVE YEARS COURSE IN MEDICINE—THE FAKIRS AND THE PATRONS—THE QUESTION OF LODGE PRACTICE—PROVISION FOR TREATMENT OF THE INSANE IN CANADA—POST-GRADUATE INSTITUTION—ANTITOXIC TREATMENT OF DIPHTHERIA.

The members of the medical profession in the Province of Ontario have taken considerable interest in the recent election of members of the Ontario Medical Council, and it is generally felt that there is reason for congratulation on the choice made. By the new enactment of the Legislature a redistribution of the constituencies was provided for, so that there are now seventeen territorial representatives instead of twelve, as formerly. In addition to these there are nine collegiate representatives, each institution in the Province with degree-conferring powers having the right to appoint a member, and five homœopathic representatives. The old Council had, by some of its regulations and investments, met with sufficient criticism to cause the formation of a medical defence association, the existence of which added considerably to the interest taken in the recent contests. In several of the constituencies the medical defence association had candidates, and several of these have been successful. The leader and head of the association was elected in one division by a large majority, and in another the president of the Council met with defeat. The feeling is, however, that although some good men have been defeated the presence of new and vigorous blood in the Medical Council will in the end be only productive of good to the whole profession. The desire of the profession throughout the Province is to make the Council as representative a body as possible, and for that reason the next agitation will be to take from all institutions, except those which confer degrees in medicine, the right to send representatives to the Council. As the law is at present two institutions, one of which has merely a nominal existence, and the other has abrogated its degree-conferring powers, appoint representatives. With this proposed reform the Medical Council will probably remain unchanged for the next four years.

The new regulation of the Medical Council, that all students of medicine before coming up for the final examination before the board of examiners of that body (without a license no one can legally practise medicine in the Province of Ontario), must spend five years in professional study, is likely to give the utmost satisfaction. The colleges of medicine have already made the necessary alteration in their curricula, and the students who have entered the fall term this year have done so with the clearly understood regulation in view that a five years' course is now imperative. In spite of this, however, the number of new students in the different colleges remains about the same as in other years. Several American institutions have literally flooded the Canadian post-offices with announcements during the past summer, and it is not to be wondered at that quite a number of Canadian students now attend American colleges, where they are assured they can attain to, in two or three years, what will take them five years to reach in Canada. Such students seldom return to practise here, as the regulations of the Medical Council are so strict that it is felt that only those who have complied from year to year with the requirements laid down by that body, can be at all hopeful of succeeding at the examinations. Truly the medical profession in Canada is well protected, for each province of the Dominion has a strict code of medical laws. Fortunately the public feel that they also are protected in this way against the invasion of the fakir and charlatan.

One of the regulations of the Medical Act in Ontario, is that anyone who has been registered and is clearly proven to be guilty of disgraceful and infamous conduct, may be brought before the discipline committee, and if after a fair trial he is found guilty his name may be struck off the register, and his right forfeited to practise in the province under severe penalty. Several have been brought to book rather severely before this committee, and although there is a right to appeal to a court of justice, in every instance the decisions of the committee have been ratified. A few of these malcontents, newspaper advertisers, who most dishonestly promise miraculous cures in hopeless cases, and whose swindling of the public has made the Medical Council's strict regulations more popular than ever, have been recently attempting to get the sympathy and support of a political organization, known as the patrons of industries, and through the influence of that respectable body, have vainly hoped to effect legislation, during the next session of the parliament, which would take from the Medical Council the power it now holds of striking the names of quacks and fakirs from the Ontario register. The patrons in the Legislature are believed, however, to be too intelligent a class of men to advocate such a scheme, and this latest effort of the much discredited medical charlatan is doomed to failure. Ontario gives no quarter to quackery.

The question of lodge practice in Canada has during the past year been exciting considerable attention. At the annual meeting of the Ontario Medical Association a strongly worded resolution was passed declaring against all lodge and contract practice, and as this association has a membership of over seven hundred medical men from every portion of the Province the influence of its action is wide-felt. It is a fact that in a portion of Canada, the people have given a strong patronage to beneficiary societies. In a small town of two thousand inhabitants there is often five or six of these societies, so that frequently a greater number of the male population belong to one or other of these different orders. Each society has its own physician, although there is nothing to prevent a "pushing" medical man, by one means or another, fair or unfair, from securing the contract of furnishing medical attendance for the members at so much a head. The price paid averages about a dollar a member, including medicines. In one city in Ontario it is said some medical men have contracts for attending as many as two thousand mem-

bers of different societies. The feeling is that all contract work is degrading to the profession, and if the effort now being made to discourage medical men from having anything to do with lodge practice is successful, a great and growing evil will be checked.

The care of the insane in Canada has for many years been a serious problem, and it is only a few years since the distinguished English alienist, Dr. Tuke, made such an unfavorable report on the condition of some of the Canadian asylums. Fortunately his severe criticism was confined to the Province of Quebec, and since then great improvements have been made in the asylums of that province. Ontario has sustained its reputation as the banner province of the Dominion, by excellent provision for the insane of its population. There are at present over four thousand insane persons in the care of the five well-equipped asylums maintained under the care of, and managed by, the government of the Province of Ontario. The management of these institutions has been such as to secure the fullest confidence of the profession, and the results of treatment have been equal to any in the world. Ontario has just reason to be proud of its asylums, although they are maintained at a very much reduced figure when compared with similar American institutions. True, some wily politicians have endeavored to criticise the kitchen expenditure in one or two instances, but this only serves to prove how carefully and judiciously these institutions are conducted. As an example of how economically everything is managed, it may be mentioned that the lowest salary paid to the medical superintendent of any asylum for the insane in the State of New York is four thousand dollars per annum, including a fine residence and living for himself and family; while in Ontario the highest salary paid to a medical superintendent in a similar position, and with fully as much responsibility, is two thousand dollars per annum. The opening of a new asylum at Brockville adds considerably to the provision made for the treatment of the insane in Ontario, and the excellence of the equipment of this new institution is calculated to increase the confidence felt by the medical profession throughout the Province, that in committing their patients to these institutions they are placing them where they will be well and carefully provided for. The tendency in Ontario is to make these institutions more like first-class hospitals, full of cheerful comfort, and thus do away with the old idea that an asylum resembles and is managed like a prison.

There is every probability that in the course of a short time a post-graduate course will be established in the city of Montreal for the benefit of the large number of Canadian medical men who have expressed themselves desirous of having such an institution in the Dominion. Montreal or Toronto, with the hospital advantages and wealth of clinical material possessed by each, would furnish a very desirable centre for such an institution, but in establishing such it will be necessary to decide which is likely to prove the most advantageous in every respect. Surely in deciding the clinical facilities these cities offer and which are so requisite for the complete success of a post-graduate school, the jealousies which sometimes come to the front when the claims of these two great commercial centres are being compared, will not be seen. Either Montreal or Toronto will do, but the feeling is that Canada must have only one centre for post-graduate work.

The antitoxic treatment of diphtheria has during the past few weeks received considerable attention in Canada, and the reports are most favorable. One careful observer, who used it only after the Klebs-Loeffler bacillus was found in each case, had a percentage of 74.2 recoveries.

Insanitary Dwellings in Birmingham.—It is said that there are 10,000 houses unfit for habitation in Birmingham, England, which are nevertheless crowded with wretched human beings.

"IS IT THE BEGINNING OF THE END?"

To the Editor of the Medical Record.

Sir: It is with a certain degree of reluctance and hesitancy that I venture to criticise Dr. Weir's fascinating paper under the above title in a recent number of the Medical Record. It is a most scholarly production, founded evidently upon honest convictions, and revealing on the part of its author a liberality that invites candid criticism. The writer has studied closely and taught us much about crime and the psychology of crime; and yet it seems to me that his conclusions are somewhat too pessimistic. Besides taking too limited a view of the present age, which of itself is apt to warp one's judgment, he draws comparisons between our nation and certain extinct nations of the past that do not seem to me to be entirely warranted. So gloomy are the closing paragraphs of his essay that I would willingly believe he has been prejudiced by the field of study in which he has done such splendid work. To think of our country, with all its youthful activity, its vast extent, its unlimited resources, its power, commerce, and industrial capacity, its science, literature, and art, as soon to follow in the wake of Rome, Egypt, and Assyria, is not only sad but appalling. If we are already at the beginning of the end, why proceed? If the "social cataclysm" is already in view, what purpose can there be in our struggling to postpone merely for a brief time the inevitable?

History and statistics have always taught different lessons to different men. For my part, I see differences between our modern civilization and the ancient civilizations referred to by Dr. Weir, that tend for good and far outweigh the resemblances that tend for evil. In the first place, the Assyrians, the Egyptians, and the Romans were all unchristianized. They had their respective religions, but they were stoical, coldly philosophical, and fatalistic. Looked at from every point of view, Christianity (using the term in its broadest, historical sense) must be admitted to have introduced among the nations a standard of morality and a principle of living that were quite unknown to them before. All historians, sacred and secular alike, admit the irresistible influence of the Christian doctrines toward raising the moral tone of the nations by whom they were accepted. So antagonistic an authority as Gibbon is forced to confess the power and influence of Christianity in modern civilization, when he states that, "after a revolution of thirteen or fourteen centuries, that religion is still professed by the nations of Europe, the most distinguished portion of human kind in arts and learning as well as in arms." In the second place, the form of slavery known to the ancients and unknown to us is a difference that must be given great weight. The slaves were hostile captives taken in war. The proportion of the slaves to the native population was always a menace to the state, and hence their cruel treatment, and in the end brought about the nation's downfall directly or indirectly. I regret that space only allows me to indicate this difference between the ancient and modern worlds, but its tremendous importance is attested by all the leading historians. A third difference is the prominence of the military class among the ancients over the same class among us. War and conquest seem to have been the principal business of the ancients, for reasons obvious enough to any thoughtful person; barbarous nations had to be quelled; ambitious autocrats had to settle personal quarrels with neighboring autocrats; the great standing armies had to be kept employed; and the mass of the people had to gain a livelihood, which, in those days of comparatively less commercial industry, was most easily obtained in the army. Arrogance, pride, discontent, and sensuality naturally crept into those victorious armies during their periods of enforced idleness. Later on these armies became mercenary, full of internal dissension, void of all patriotism, and antagonistic to the very

people they were supposed to serve. The treachery and rebellious spirit of the Prætorians, that shattered the throne of the Cæsars and their vast empire, was but a repetition of what had already occurred in the kingdoms of Assyria, Persia, Egypt, and Macedonia. A chapter might be written on this difference—the military difference, if I may be allowed the expression—between those nations and ours. On the military side, the patriotism of the American people is a stronger bulwark against national calamity than were the mighty legions of Rome. It was the growing patriotism that once threw the mercenaries of the short-sighted Bourbons at the time of the French Revolution. This revolution, with all its horrors, was a blessing to France and the French people, and I cannot comprehend how Dr. Weir regards it in the same light as the downfall of the Roman Empire and of the Egyptian and Babylonian civilizations. They were due to entirely different causes—causes most apparent in each case, local in time and place and not at all present or operative in our republican nation. A rotten monarchy, a crushing and privileged aristocracy, and a servile army cannot justly be compared with a free republic and a patriotic, prosperous, independent people. A fourth difference between the ancient and modern worlds is that of government. Assyria and Egypt and even the Roman Empire were more autocratic in their form of government than modern Russia. Russia to-day, however, is gradually climbing to the standard which America has set before the world, which France has already adopted, which England has adopted all but in name and which other nations are showing a strong disposition to adopt, namely, the government of a people for a people by a people. The ancient monarchies fell when the autocrats which ruled them fell. They were self-destructive by reason of their form of government. It was the degeneracy of their masters, more than that of their people, that crushed Assyria, Egypt, and Rome. Our rulers, however, are the people themselves, and to apply the argument to us, we could only expect the immediate downfall of our nation by presupposing that our people were degenerate.

This brings me to the most important criticism that I wish to make. It seems to me that we are pushing the doctrine of individual degeneracy too far these days. When a genius is thought to be a degenerate because, forsooth, he does something better than his neighbors, and when he is regarded as unbalanced because he is not content to quietly eat his three meals a day, sleep his sleep at night, and do nothing beyond the routine of the mass of his fellows, I think it is time to call a halt and to candidly ask ourselves, what is a normal man, and what are the limits of a normal man's capabilities. I have lately examined some lists of so-called degenerates tabulated by various writers, and in these lists were the names of certain intellectual giants, who, had they been alive, I fear would have been tempted to knock the tabulators down for their impertinence. Genius may be erratic and eccentric and all that, but, unless it goes beyond certain limits, it is a gratuitous insult to call it degenerate and less normal than the rest of dull mankind. Lombroso is leading us astray in his peculiar estimation of genius. If dull uniformity be the standard, let some alienist define for us the precise limitations of this delectable dulness and uniformity. For instance, of how much music must one be capable, say, before he is likely to be regarded as a genius and a degenerate? How much of poetic inspiration must a man have to keep him within the happy, fortunate class of non-degenerates? In fine, how much of science and art and invention must anyone possess before he steps over the line of insipid boredom into the doubtful arena of genius and degeneracy? Where is the line that divides the degenerate or atavistic from the non-degenerate or perfect, the abnormal genius from the normal mediocrity? Understand, I have no objection to the use of the word degenerate, though it unfortunately does convey the idea of inferiority. My dispute is solely with the drawing of the line between the normal and abnormal, as some of our alienists are now doing. Without having defined for us the normal man, they audaciously seize upon nearly all of the great ones of earth, those who have instructed and entertained mankind, and boldly label them abnormal, degenerate. They are even indicating for us the physical stigmata of degeneracy as seen in the heads and faces of these abnormal men. In one of the recent journals, there appeared a series of countenances of various criminals, fanatics, and enthusiasts, some badly drawn, and nearly all in misleading poses, and we were asked to notice that in this one the eyes were too close together, in that one too far apart; that in another the ears were too large, in yet another too small; that in some the brow was too high, in others too low; that in this man the lower maxilla was too prominent, in that girl it was too retracted. And so on through the series. After reading the article in question, I walked down State Street and began studying some of my fellow-citizens. I wondered who of them were, after all, normal men. I saw one man with eyes close together, ears a trifle large, and some other stigmata that I had just been reading about, and I marvelled that he was not arrested before he had committed some crime, for clearly he was a typical and pronounced degenerate. He bore, however, I believe, an unusually good and honest reputation! I wonder if the author of that illustrated article would feel sure enough of his stigmata to go into a crowd and with their aid pick out the probable lunatics, criminals, and individuals likely to harm society by reason of their atavistic tendencies? It seems to me this sort of reasoning is surprisingly *post hoc* rather than *propter hoc*. Until we know more about the normal man and are better able to distinguish him from the abnormal, such guess-work savors much of the old woman's "I told you so," after the accident has occurred.

Like the socialists, many of the advocates of the degeneracy doctrine would have us adopt for the standard the lowest rather than the highest. The tendency of their reasoning seems to be downward rather than upward for the normal man, and their pessimism therefore is scarcely to be wondered at. There is a suggestiveness in much of the theory as it is applied to genius of the fable of the tailless fox who tried to persuade his brethren to admire his superior gracefulness. There are degenerates, no doubt, and the subject of criminal psychology is one of the most serious that man can study, for its results will redound to the good of society; but when at this early stage of the science, it is pushed to extremes and unwarranted assumptions are made while we are yet unfamiliar with the perfect man, when genius and those who tower head and shoulders above their fellows in mental power, and when even those who, like the French Revolutionists, committed crimes under the most terrible provocations, are calmly set down as abnormal beings, degenerates, and are even declared to show their degeneracy in a few scarcely perceptible, contradictory facial stigmata such as may be often seen in the faces of many honest and honorable men, the doctrine borders close upon the ridiculous. Like a boomerang, its absurdity will recoil upon itself, intelligent men will become disgusted and a valuable practical department of science will have received a grievous setback.

As an illustration of how a man's judgment may become warped when he studies all things from the side of criminology, I would refer to some of Dr. Weir's remarks upon dancing. I quote his own words so as not to be misunderstood. "Contact of the sexes in the dance is only pleasurable because of that contact. . . . Æstheticism and carnality are by no means as dissociate as the æsthete would have us believe. All pleasurable emotions that have their inception in the

senses are fundamentally of carnal origin. The waltz is æsthetic, yet all of its pleasure is based on an emotion closely akin to sensuality." If the distinguished writer really means all that his words imply, he has scandalized, I fear, many fine and noble-minded persons. I know numbers of individuals of both sexes who are as pure-minded and innocent of sensuality as an infant, that nevertheless revel in the dance when inspired by the brilliant illumination of the ball-room and the rhythmic measures of the music. I know not if the doctor be a married man, but if he is, some day perchance, he may see his little boy or girl trip the "light fantastic" to the sounds of the rhythmic waltz across his parlor floor. Will he then look upon his innocent, happy child, full of pretty activity and impelled by the sounds of the music and declare that he is doing it from a feeling of sensuality? Were the ancient religious dances, such as the Hebrew dancing before the ark, the dancing upon the return of the victorious conqueror, such as the old Greek choraic dances or even such as the wild Indian and African dances of to-day, associated with thoughts of sensuality? Any form of amusement may be degraded by the carnal-minded. There are of course lewd ballets, skirt-dances, and high kickings. But to say that so ancient, natural, and graceful an expression of one's emotions as the dance is a sensual exercise is cynicism itself and insulting to hosts of pure, refined, and cultured people. Dancing is as harmless an exercise as running and swimming. Like laughing it is one of the distinguishing differences between man and the brutes. It is as old as the human race itself and in the dim vista of antiquity it was associated with things divine. It is the rhythm of movement as music is the rhythm of sound. To him who beholds only sensuality in it, the best answer is "honi soit qui mal y pense."

Again, to say that the rich, surrounded with luxury, are fast becoming debauched, and that insanity is rapidly on the increase seem to me to be great exaggerations. Close intermarrying has had more to do with the degeneration of the European aristocracy, cited by the author, than luxury; while in this country anyone who has mingled in the slightest degree with its best society, with all its wealth and luxury, will bear witness to the fact that corruption is not coextensive with it. Many a mansion in our American cities is the centre of as charming a domestic circle as is the humblest cotter's thatch. The prominence of the wealthy class naturally gives more prominence to the peccadilloes that occur in their midst than to those which occur amid the poorer class. It is rank cant to prate about the debauchery and licentiousness among Americans that happen to be wealthy and capable of enjoying the luxuries of this life. It savors too much of the speech of the demagogue. Debauchery and licentiousness have existed from the beginning of the world; they have raised their ugly hydra heads time and again and have as often been firmly suppressed. They are, however, as indigenous, if not more so, in the East End as in the West End.

And, as to the increase of insanity, it is stated upon good authority that there is only an apparent increase. Being at last recognized as a disease and not as a kind of witchcraft, a pitiable misfortune rather than a burning shame, families are now more free to send their afflicted ones to the asylums than they were in the past. Furthermore, in milder cases of insanity, better diagnoses are being made to-day, which obviously tends to prevalence and apparent increase. But the very thing that induces Dr. Weir to draw his melancholy prognosis seems to me to indicate a brighter and better outlook. Science has taught alienists a superior treatment of mental affections; better asylums and hospitals are now being erected and in every possible way better care is afforded these unfortunate creatures. One of the many proofs of this fact is the readiness with which families now send their insane members to these modern institutions. Men always seek the best. The apparent increase of insanity which so alarms our author is, if anything, an evidence of a larger knowledge and a kindlier humanity on our part. Just as the flocking of a group of children about one man and their avoidance of another reveals a kindlier disposition on the part of the former, so the apparent increase in the number of the insane coming before public notice gives evidence of a higher skill and a nobler civilization in our midst.

The doctor again points gloomily to our modern licentious literature and adduces it as a proof of our degeneracy. He quotes a couple of works as illustrations. I seriously question, however, whether "His Private Character" has enjoyed the popularity of "Marcella," or whether "Is This Your Son, My Lord?" is known to half as many people as is "Ben-Hur." The signs of the times show an early extinction of this intensely realistic school of literature, the coarse school of Zola.

Good sense is prevailing, and a new and more wholesome literature is already springing up in our midst. Nasty realism in romance was only exotic at best, and never did have any firm root. Its beginning decay already proves that the race is still guided by pure and noble sentiments. But how can Dr. Weir speak of this literature having any real influence and quote two books little heard of among the better class of readers when he recalls the popularity of such writers as Howells, Stevenson, Doyle, Wallace, Ward, Stockton, and a host of others, too many for me to mention here?

Is it, indeed, a sign of disaster and of an early "social cataclysm" when such splendid work is being done as has just been done in New York by the Lexow Committee, and which promises to be done here in Chicago by the Civic Federation? How soon will it not be before New Orleans and St. Louis and other cities will take up the needed reform? But, alas! our author again views these splendid achievements in the cause of reform and purity from the opposite stand-point. He sees the corruption that has been unearthed, the fraud that has been wiped out, and at once he concludes that because all this sin existed the nation is full of rottenness, and a "social cataclysm" is near at hand. Is it not more true rather that these sins have existed always among men, and that the rising of the people to blot them out of existence as they are now doing, or trying to do, shows that they are still a strong healthful people, full of a sturdy good sense and yet far from degeneracy and extinction.

Yes, I am glad I see through other glasses than does Dr. Weir. With our vast uncultivated territory, our countless industries, our extensive commerce, our railroads and telegraph, our marvellous inventions, our growing art, science, and literature, with our splendid achievements in surgery, naval architecture and engineering, our great universities and charities, with our happy homes dotted all over the country, our magnificent cities, our peace with all the world, with our free and liberal form of government, our patriotism and our rich galaxy of great names, such as Washington, Lincoln, and Grant in war and statesmanship, Webster and Clay in oratory, Longfellow, Lowell, Bryant, and Emerson in literature, Powers, Greenough, and Church in art, Mason, Buck, and Paine in music, Gray, Edison, and others in electricity and mechanics—with all this wealth, and power, and opportunity around us I am at a loss to see the signs of a near social cataclysm. Are we not in the very midst of men who are leading the world in finance, commerce, industry, art, science, literature, and invention? "Is it the beginning of the end?" Most assuredly not, else never had an end so glorious a beginning!

L. Harrison Mettler, A.M., M.D.

4544 Lake Avenue, Chicago,
January 3, 1895.

"HEAR THE OTHER SIDE."

To the Editor of the Medical Record.

Sir: A writer like the author of the article "Is it the Beginning of the End?" always speaks of society in a very limited sense. He seems to think that any change in the existing state of civilization must be a change for the worse, or rather must tend toward the destruction of society. Mankind is continually advancing; and society, that is the relations of men to each other, must likewise change. The form which is suitable for one stage of progress is not suitable for another; and to alter the form is not to destroy society, or even to threaten it, but is, so to speak, merely the development of the shell at the same rate as that of the kernel. Civilization must ever travel the road of progress or stagnate, and stagnation is degeneration. There are those who believe that the growth and perfection of machinery has so changed the possibilities of production and distribution, has so broadened our social horizon, so increased the chances for a better civilization, that a radical change in the form of society is imperatively demanded, and, in fact must irresistibly come, either by peaceful change or violent revolution. And they believe that this alteration may be brought about by the former method, if people will be reasonable, open their eyes to plain facts, and apply sufficient remedies where they see wrongs and inconsistencies. Those who are of this opinion, and who believe in the public ownership of the means of production, distribution, and exchange are Socialists. Dr. Weir says they are degenerates—the offspring of luxury and vice, the scions of unnatural and degraded passions. He gives no reasons for this remarkable statement.

According to this prophet of woe, during the coming "social cataclysm . . . beside which the French Revolution will sink into utter insignificance . . . they [the ultra rich] will simply open their purses . . . and pay for the privilege of being protected. The sober middle class is a business people, and they will demand and obtain assistance from their wealthy brethren." That is to say, that even in the awful times of the social revolution, the guiding star of the middle class will be "business." They will protect the ultra rich from the just consequences of their folly, provided they pay high enough for their protection. It is, apparently, to be a union of the "effeminate, sensual, and luxurious" ultra rich with their brethren, the "sober middle class" against the "army of degenerates, composed of anarchists, socialists, nihilists, sexual perverts, and congenital criminals." Now sexual perverts and congenital criminals are, of course, degenerates. Anarchists may be. Nihilists is a term applicable only to Russia, to perverts and congenital criminals. As to Socialists, I question very much whether the author knows what they really do believe, or that he has any information on the subject worthy of the name. Does he class among degenerates such names as John Stuart Mill, Thomas Carlyle, John Ruskin, Tolstoï, Karl Marx, William Morris, Sidney Webb, Horace Greeley, W. D. Howells, Arthur Sherburne Hardy, or Edward Bellamy? Does he know that their writings are full of Socialism? That Mill, in his "Autobiography," avowed himself a Socialist; or that John Ruskin, in "Fors Clavigera" called himself a "Communist of the old school—reddest also of the red?" Does he know that some of the leading political economists of this country believe in the national or municipal control of "natural" monopolies, which is incomplete Socialism?

And who are the "great middle class" which is to save civilization—and incidentally get paid for it by "demanding assistance" from their wealthy brethren? I have no figures for this country (being an ordinary workingman, poverty-stricken, and, therefore, degenerate, I have no encyclopædia), but, in the *Century Magazine* for December, 1892, is an article by Washington Gladden, on "The Problem of Poverty," in which are given some authoritative figures for the city of London. Here we find that, of the total of 4,209,170 inhabitants of the central districts of the metropolis, 37,610, or nine per cent., are classed as lowest, which would include most of the congenital criminals; 316,834, or 7.5 per cent., very poor, who are in chronic want; 938,293, or 22.3 per cent., poor, "who barely manage to keep the wolf from the door;" 2,166,503, or 51.5 per cent., working-class, regularly employed and fairly comfortable; 749,930, or 17.8 per cent., middle class and above. Where is the "great middle class" which is to reap profit by being the "true conservators of society?" And this 750,000 includes the higher (?) class as well.

The complicated organism called society never for a moment stands still. It is constantly growing. The danger comes, not from Socialists, but from those who, like Dr. Weir, would dam up the river of progress, causing its onward flow to cease for a time, but breaking out shortly with irresistible force, and sweeping all before it, good and bad. It is not the calm, onward flow of the river which causes any harm, which is, on the contrary, of the greatest benefit, but the mad attempt to fight natural laws, which causes destruction.

C. W. Cavanaugh.

New York, January 12, 1895.

THE TELEPHONE PROBE.

To the Editor of the Medical Record.

Sir: The improvement, described by Dr. Wells, of the Navy, for Dr. Girdner's telephone probe, recalls to mind the experiments made by myself in 1890. I used for a time a small battery, but found that the battery as such could be eliminated; its place being supplied by two dissimilar metals which on moist contact yield a current something like the .000001 part of a Leclanché cell, but which is sufficient to give a very loud and distinct sound when the circuit is completed; of course this is a battery, but it is the most durable and the least expensive imaginable.

In the *Medical and Surgical Reporter* of May 31, 1890, I described the instrument, which has since been put on the market by Leach & Green of Boston.

The probe proper consists of a flexible cannula containing two insulated wires, the ends of which project a short distance beyond the cannula.

To the handle of the telephone are fastened at opposite points a zinc and copper plate which are connected in the circuit exactly as the two poles of a battery; all connections being made in the handle of the instrument are of course invisible; by grasping the handle of the telephone with the hand a current is generated, due to the contact of the two dissimilar metals, and whenever this current is "made" or "broken," the characteristic clicking sound is heard in the instrument.

As will be seen by reference to the illustration, I do not use the body at all as a conductor, but have the two terminals concealed in the probe; the current being completed by the exposed ends coming in contact with the bullet.

This method of eliminating the body as a conductor, is a distinct feature, for the resistance of the body to a current is very variable. But if Dr. Girdner's probe is used and found too weak, I suggest that two plates be connected in the circuit as in my probe. I know from experiment that this will amply increase the current without the expense and trouble of a special battery.

Harvey B. Bashore, M.D.

West Fairview, Pa.

Statues to American Medical Men.—A correspondent of the *American Journal of the Medical Sciences* says that for years there has been a statue of Dr. J. D. Crawford in the Rotunda at Washington.

THE MARRIAGE OF SYPHILITICS.

To the Editor of the Medical Record.

Sir: I have received, from all parts of the United States, letters from prominent physicians and college professors giving statistics of third generation inherited syphilis, since the appearance of my article in the Medical Record of December 15, 1894.

I now request all readers of the Medical Record who may feel so inclined and can give statistics substantiating the ground I have taken against the marriage of syphilitics and in favor of pure marriages, and the betterment of the race by confining syphilis among its own class, and out of the sacred homes of America, to write me personal letters giving any facts and cases at their command, and I will endeavor to furnish a later paper with more complete statistics.

I am fully convinced something must be done to stamp out the disease. I believe proper legislation, supported by the State Board of Health, could be enacted which would confine it among its kind, and that there it will exterminate itself and its kind.

Frank E. Maine, M.D.

Auburn, N. Y., January 4, 1895.

THE DANGER OF CIRCUMCISION.

To the Editor of the Medical Record.

Sir: While looking up the official records of the New York Board of Health in reference to the number of deaths reported due to circumcision, my attention was called to a report of Dr. R. H. Taylor. In 1872 Dr. A. Jacobi called the attention of the City Sanitary Inspector to a case of syphilis in an infant; he suspected that this disease was transmitted to the baby by the mohel-surgeon while performing the operation of circumcision. Dr. Taylor was then requested to investigate this case. Three similar cases were seen by the same physician within the same year. Of those four cases three died, the fourth, yielding to antisyphilitic treatment, ultimately recovered. Though Dr. Taylor could not assure himself at that time of the fact that this poison was directly communicated to the infants by the mohel, as the latter did not present the symptoms of syphilis on his person, nor give any history of the disease, he was positive that the malady attacked the infants during the operation of circumcision.[1] The conclusions and suggestions of Dr. Taylor in his report are in the same line with those I had the honor to present in my paper in the Medical Record, though his are less radical—due, I believe, to the fact that the mortality of infants following circumcision twenty-two years ago, was small in comparison with that, commencing in 1881, when the Hebrew population of New York City began to increase greatly.

Circumcision as a cause of death is recorded in the report of the Board of Health sixty-seven times in the years 1881 to 1894, inclusive. I believe these figures speak for themselves, and go to support the view taken in my paper, recommending the interference of the medical profession and the local boards of health in behalf of our innocent babies.

A few words of acknowledgment are yet due to my kind critic, Dr. Hochlerner. Probably, the shortest and most instructive reply to all his sweeping statements would be: "Look, investigate, and think," but this would hardly be the most courteous one. Dr. Hochlerner calls circumcision "a little procedure," and not operation, when all the text-books of the world and the boards of health put that little procedure under the general heading of surgical operations. He also believes that "complication after circumcision so grave as to cause death is so unheard of . . . it is infinitestimally small." One would suppose he based that belief on some absolute grounds, because he unhesitatingly continues: "Let the Board of Health statistics (which he certainly never consulted) answer, how often do they contain reports of deaths as the result of circumcision?" To this assertion I must say: "Look to the above figures and convince yourself." My critic ventures to say that "in the best modern hospitals sepsis occurs a hundredfold more than in that crowded little room. In which hospitals? Where? On what facts is this statement based? I believe it would suffice to refer Dr. Hocklerner to the reports of the New York Maternity Hospital, for instance, from which he could learn that in that modern institution the mortality due to sepsis is very small indeed. Referring to the short time circumcision consumes in the hands of an experienced mohel, I must state that time has never been considered a factor in producing sepsis, but unclean instruments and dirty hands and fingernails always cause mischief. Being anxious to exclude circumcision from the category of surgical operations, he tries to lower its professional dignity by comparing it with vaccination. But the records of the Board of Health will again show that the operation of vaccination has been the cause of many deaths. Dr. Hochlerner must have been exceptionally fortunate to have had the opportunity (within less than two years in a country place) to witness dozens of times the country mohel's armamentarium, not complete without a bottle of carbolic and iodoform gauze."

Neither time nor space permits me to continue these arguments, but in conclusion I must say that my learned critic has misunderstood the idea expressed in my paper. I advocate interference not with the rite of circumcision, but with the methods used in this operation, and indirectly causing avoidable deaths.

Henry Levien, M.D.

239 East Broadway.

[1] Report of Dr. Taylor to City Sanitary Inspector, New York, April, 1873.

To the Editor of the Medical Record.

Sir: Dr. Hochlerner's article on circumcision, in which he would like to prove that circumcision is as well performed by the Jewish mohel as by physicians, in my opinion is based upon one-sided prejudice.

He states that the mohel is such an expert at the operation that no evil results follow it. This statement I must deny, because it came under my personal notice that part of the glans penis was cut off; in another where too much of the fore-skin was taken off; and recently one in which a piece of the scrotum about the size of a half-dollar was missing. This would either show that they were such experts that they became careless, or they did not know how to perform the operation properly—which latter theory seems to be the most probable one to me.

In regard to hemorrhage, the practitioners on the East Side of New York are often called in by the mohels at a time when the child is losing a great amount of blood and has become weakened thereby. My learned colleague states that the record of the mohel in regard to septics is so small, that the great surgeons would be proud to possess such. In my experience the knowledge of antiseptics of the mohel is very small, and they even seem to ridicule the idea of using them; although they do not expose the wound to the open air very long, but instead they tie it up with a dirty piece of rag or linen which is constantly in contact with the wound, and so more dangerous than mere exposure to air. In one case a mohel, who seemed to be a little more intelligent than the rest I came in contact with, used the urine of the child both as a styptic and antiseptic lotion. Their hands and instruments are not antiseptic, they suck off the blood, by which they bring in contact with the wound, the saliva or perhaps their decayed teeth, which may be syphilitic or covered by tobacco-juice. Gangrene and erysipelas may complicate it.

He cites the Board of Health statistics, that the mortality of children after the operation by a mohel is practically nil; but this only shows, as he himself

states, that it is no more of an operation than vaccination, and that when any complication arises, the physician is called in, and by his scientific treatment saves the bad record of the mohel. But vaccination itself is entirely in the hands of the physician. I have no doubt that the record of an unexperienced physician would be better than that of an experienced mohel.

The religious rite has nothing to do with the circumcision itself, which they can perform if they want to; but I honestly believe that the operation should be performed by the physician only.

Yours respectfully,

MARTIN SCHWARTZ, M.D.

334 EAST FOURTH STREET, December 19, 1894.

ANÆSTHESIA BY ETHYL BROMIDE AND CHLOROFORM.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the November 3, 1894, number of the MEDICAL RECORD, you published an editorial on "Anæsthesia by Ethyl Bromide and Chloroform," referring to Dr. Magill's "New and Rapid Method of Anæsthesia."

Dr. Magill first published a notice of this paper in the MEDICAL RECORD of October 21, 1893, and I answered his communication on November 18, 1893, disputing his claims. He wrote again in your issue of January 13, 1894, denying the validity of my proofs, and I answered in the issue of February 3, 1894, and my last letter has remained unanswered, so that I infer he admits the correctness of my statements. I clearly showed that the same methods which he claimed as new were used and reported [1] ten or more years before Dr. Magill's report of them.

Why Dr. Magill persists in claiming priority in these methods I know not, but I think it but just to the men who originally described the methods that, since his paper has been editorially noted by you, their priority should also receive notice from you in your official capacity, especially as his claims were successfully refuted in your own journal.

Leaving the justice of my plea to your judgment, and hoping to see "Honor given to whom honor is due," I am,

Yours fraternally,

J. TORRANCE RUGH, M.D.

PHILADELPHIA, PA., December 20, 1894.

IS MALARIA A WATER-BORNE DISEASE?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In replying to Dr. Daly's letter of September 15, 1894, under the above heading, I stated that my experience was that we could and did contract malaria through the air-passages, and that water was also a means by which it was transmitted. Dr. Daly positively states that it can only be taken in through the food-channels, and in his first letter, September 15, 1894, he states that many will say that his position is untenable (something which cannot be maintained or supported). I am one of the many, and when I used the word "absurd" when the Doctor says that New Yorkers take in their malaria on turnip-tops, cabbage, kale, spinach, I certainly did not mean it in any other sense than that given by Webster (inconsistent with reason); for I claimed that the vegetables mentioned were boiled before eating, and surely, if merely washing the leaves with clean water before using will destroy the malarial deposit as the doctor states, why then the doctor's theory is "inconsistent with reason." By the way I notice that, since I called the doctor's attention to the fact that the above-mentioned vegetables were usually cooked before eating, he has selected celery, lettuce, and radishes as the New Yorkers' malarial "bête noire."

I am asked to answer eight questions as to the water-supply of this place: percentage of people who drink it; number of men (Italians all) who had malaria while working in the sewer-ditch which caused the outbreak; milk-supply—and all this for the information of the medical profession. As the majority of medical men believe as I do, it is not fair for the doctor to represent himself other than as an individual. However, for his information I will say that the water-supply is from springs in the uplands having a fall of one hundred and eighty feet to every thirty-four thousand feet; ninety-five per cent. of the people drink it; the milk comes from everywhere in the county, the celery, lettuce, and radishes grow on all sorts of land. Italians don't run to doctors with malaria (subacute), the season prior to the ditch-opening was dry.

I do not agree with Dr. Daly, that water is the only source of malarial infection. I do not question his long experience, accurate, and original investigation; but I say that his field and time have been limited in comparison with others; and as he prohibits the mentioning of well-known names of a few years back, I will only call his attention to Crudeli, 1892, where he still points out that the poison of malaria is inherent in the soil of certain localities, that it is excited to fresh activity by all measures involving the disturbance of the earth, especially that which has long been quiescent. Flint's "Practice," 1886, page 1001, gives all that Dr. Daly gives as to the progress made to discover the parasitic organism in this disease.

As a peace-offering for not seeing as Dr. Daly does, I am pleased to tell him that Dr. Bartley, of Brooklyn, claims to have succeeded in demonstrating the presence of malarial organisms in the public water-supply of that city.

F. W. DALRYMPLE, M.D.

NEW ROCHELLE, N. Y.

THE OCCURRENCE OF APPENDICITIS DURING PREGNANCY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of December 1, 1894, Dr. Paul F. Mundé, in his paper entitled "Premature Delivery of a Dead Child induced by Acute Appendicitis, with Remarks on Appendicitis in Women," makes the following statement: "So far as I am aware there is no case on record of appendicitis during pregnancy." I beg leave to call the doctor's attention to such a case, reported by myself in the MEDICAL RECORD of January 23, 1892, page 109.

FREDERICK HOLME WIGGIN, M.D.

55 WEST THIRTY-SIXTH STREET, NEW YORK.

THE SIN OF SUBSTITUTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Whether it is that I am more unfortunately situated than others in respect to honest druggists, or whether it is that others suffer equally with me and are either ignorant of the wrong done them, or are more patient in their long-suffering, I cannot say. I do, however, know that the injury done me and my patients by the grasping disposition and dishonest methods of some compounders of drugs, makes an excuse for addressing you, and seeking through you the aid of the MEDICAL RECORD in devising some plan by which the evil of substituting some other drug for the one ordered may be corrected.

Besides the downright robbery of filling with acetanilid a prescription calling for antipyrin, we have to contend with the misplaced conscientiousness which prompts the "honest" druggist to withhold from the mixture a poisonous drug, "for fear the physician is giving too much." Then there is the progressive chemist, who always has a pepsin, or a coca wine, or a beef, wine, and iron of his own, which is so far superior to

[1] Ethyl Bromide and Ether in August 7, 1880, and Ethyl Bromide and Chloroform, in October, 1883.

the one you order that he feels called upon to tell all your patients of it. This putting in of something "just as good or better," has reached a point in some places which tempts the doctor to dispense his own medicines entirely, and thus dispense with the local druggist known to thus abuse his position.

Hoping some plan can be hit upon to bring the offender to terms, I am, respectfully,

A VICTIM OF THE WILY DRUGGIST.
S. M. T.

DOVER, January 20, 1895.

WHAT IS MEANT BY "USUAL TREATMENT?"

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of January 5, 1895, there appeared a very well written article on Nervous Dyspepsia, by H. Illoway, M.D. I read it with great interest and was delighted with the prospects of obtaining such brilliant and rapid results as the author pictured, in a condition generally regarded as exceedingly rebellious to treatment. All the cases reported by the doctor received what he termed his "usual treatment," and I read on, confidently expecting to learn what this was, but to my great disappointment the subject of treatment was omitted and the article ended with the address of the writer, instead of the word "continued." I must confess that I am consumed with curiosity to know how such happy results were obtained, and my object in writing is to ask Dr. Illoway, through the columns of your valuable journal, to kindly divulge what his "usual treatment" is, and thereby benefit all who are interested in this line of work.

ALPHEUS FREEMAN, M.D.
123 EAST SEVENTY-FOURTH STREET, NEW YORK.

CASTIGATION FOR CRIME.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the last issue of your Journal, in referring to the subject of corporal punishment for certain forms of crime, you state: ". . . and Dr. E. H. Grandin also favored the measure, the latter advocating emasculation for lustful crimes." This statement, appearing without the balance of my remarks, places me in a much more rabid light than I am entitled to shine in, and magnifies greatly the intent of my words. Mr. Gerry, in his remarks, specified a number of horrible instances of rape and of incest committed on infants, the punishment of which is, at best, a few years in the penitentiary. I questioned if such a penal measure acted as a deterrent to others, or indeed could possibly reform brutes capable of such actions. I took the ground that individuals capable of such horrible atrocities had likely enough passed the boundary line between the sane and the insane; that in the penitentiary they would find opportunity for sodomy; that the result of incarceration would be a gain in strength, flesh, and passion, so that on being set at liberty at the very first opportunity rape and incest would again be resorted to. I next stated that I was well aware that bodily mutilation could not in these days of high civilization be resorted to, but that I questioned if the whipping-post would do any good; that, indeed, such a punishment by no means was adequate to the crime, and that the only feasible way, short of incarceration for life, of dealing with these brutes was to so mutilate them as to deprive them of the power of committing the acts by removing not only the testicles but also the penis. The crimes referred to are hardly met by the term "lustful."

Such is the exact ground I stand upon, and I know that all who were present and heard the details of the awful crimes against the person of infants in this city of New York felt that incarceration and the whipping-post would never cure the brutes guilty of the acts, for the reason that they must be placed in the category of the insane. If they are to be allowed to walk the streets at all, they should be deprived of the ability—to refer to an actual fact—of splitting the pelvic floor of a child of six by means of the penis of a full-grown brute.

Yours respectfully,
EGBERT H. GRANDIN, M.D.
36 EAST FIFTY-EIGHTH STREET, NEW YORK.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 19, 1895.

	Cases.	Deaths.
Tuberculosis	134	105
Typhoid fever	6	2
Scarlet fever	93	17
Cerebro-spinal meningitis	0	2
Measles	82	9
Diphtheria	185	33
Small-pox	3	1

Decrease in the Death-rate.—The bulletin of the New York State Board of Health for the month of October shows that the reported mortality for the month has decreased from a daily average of 311 to one of 290, which is identical with that of the corresponding month of last year. The average daily death-rate for the preceding nine months was 335. The death-rate per thousand population annually was about 16.60, against 17.50 in September, and 19.15 in August. In one hundred and fifty cities and villages, representing seventy-five per cent. of the population, the death-rate was 17.75, against 18.85 in September, showing a material decrease in the urban mortality. In six large cities there were about two hundred fewer deaths than in September. There was a proportionate reduction in the rural mortality, the reported deaths from the same sparsely populated towns being 250 fewer than in September. The infant mortality was greatly reduced, the number of deaths under five years being 1,000 less than in September. From zymotic diseases there were 1,420 deaths, against 2,320 in September, and 1,540 in October, 1893. Eighteen per cent. of the total mortality was from these causes, against an average for this month for ten years of nineteen. There were 800 fewer deaths from diarrhœal diseases than in September. The mortality was, however, up to the average for the month. The customary fall increase from diphtheria, which did not show itself in September, has appeared, having caused 170 more deaths, but the mortality is a little less than a year ago. The increase is confined to the large cities. From typhoid fever the number of deaths has not increased. Scarlet fever continues but lightly prevalent, and caused but 32 deaths. There was an increase of nearly two hundred and fifty deaths from acute respiratory diseases, as is usual. Consumption caused 1,012 deaths, or very nearly the average for the nine months preceding.

A Country without a Dispensary System.—There being no dispensary "system" in France, the medical relief of the poor is as complicated as it is cumbersome. There is a lamentable want of organization, and the inefficiency is so patent that the Municipal Council contemplates recasting the old and effete machinery. The cause is simply due to the rooted dislike the French have for anything approaching "pauperism." That wounds their *amour propre;* they have the thing, but reject the name. The French send the aged, the in-

firm, and the incurable to the hospice, the seriously sick to the hospital. Then a line is sharply drawn between the indigent and the necessitous, who are assisted through what are called the *Bureaux de Bienfaisance* or Relief Boards. The latter operate in two manners, give succor in food and medicaments to those who must come to the establishment, and next to those at their domiciles.—*Medical Press.*

Coca as a Tipple has, we fear, come to stay, at least until its deleterious effects are better known. Coca wine alone, or with brandy, is among the drinks which infest the American bar. A cocaine habit can be easily acquired by the use of coca wine. It is a serious question whether our Boards of Health or legislative bodies should not pay some attention to the matter. If coca wine is allowed, why not poppy wine or a hashish wine?

A Large Gall-stone.—Dr. T. A. McGraw reports in the *Medical Age* a case of intestinal obstruction which was found on operation to be caused by a gall-stone completely filling the lumen of the intestine, at the junction of the jejunum and ileum. The calculus weighed two hundred and fifty grains.

"Curiosities of a Country Practice."—The writer of an article under this title, which appears in the November number of the *Cornhill Magazine*, is a medical practitioner in Cornwall, and gives some curious and most interesting examples of the survival in his district of strange superstitions. A few years ago a white witch —"a dirty old woman living in a back street—the repository of innumerable absurdities handed down from countless generations of traffic in the black art"—shared with the orthodox practitioner the confidence of the country folk. The wise woman under her different names may, we know, be found in many parts of England yet, though her functions are generally more those of the soothsayer, of the astrologer, or of the detective, than of the physician, but it is hard to believe that such a remedy as the one that follows—a remedy redolent of Alexander of Tralles—could really have been proposed in England in the year of the Jubilee. Yet as late as 1887, the finger of a man who had committed suicide by hanging was used to charm away epileptic fits! A story is also told of how and why a woman preserved in spirit a toe which had been amputated, and the view taken by the patient shows in a wonderfully vivid manner how inextricably the materialistic and the transcendental are mixed in all vulgar superstitions. She had lived a bad life, she said, and she did not know where the toe might go if she allowed it to be buried at once; but as she had resolved to lead a more creditable career in the future she kept the lost member by her, "that she might get her toe again some day and not go limping in the next world." The article is, in fact, an amusing collection of suggestive stories. The dates are not given, and this deficiency makes it impossible for us to see whether the fairy story confirms or refutes Mr. Andrew Lang's theory on the extinction of fairies, as given in his new "Yellow Fairy Book;" but, with sufficient proof appended to render them trustworthy contributions to a science, many of the episodes described in "Curiosities of a Country Practice" would be welcome additions to the archives of folk-lore.—*Lancet.*

The German Obstetrical Position.—German women are uniformly delivered in the dorsal position, and it seems never to occur to them or their medical attendants to try any other posture. Dr. Mensinga, of Flensburg, in Holstein, calls attention to the following experience: Having occasion to perform podalic version in a woman with a somewhat narrow vagina, he found that by placing her in a prone position, with the thorax and the upper part of the abdomen resting on a pillow, he could very easily grasp the fœtal knees, which it had before been quite impossible for him to reach. Version was then easy to perform, and the fœtus was extracted readily. In fact, Dr. Mensinga says the condition of the perineum up to the anus, during the passage of the child's head, can be observed by this method with an accuracy of which he had before had no idea, although, as I may mention, in parenthesis, he is not by any means a young man, but has been engaged a lifetime in gynecological practice.

Anecdote of Sir William Gull.—Sir George Johnson tells the editor of the *British Medical Journal*, that Sir William Gull, whom he met at Eastbourne shortly before his death, said to him, "You know the true translation of Γνῶθι σεαυτόν is, 'Test your urine.'" The editor remarks that it would be interesting to know whether this had been done within a year or two in the case of the late Czar. The following note from *Le Progrès Médical* for November gives an answer which is interesting, if true:

THE CZAR'S ILLNESS.—The medical profession of St. Petersburg, according to *Le Temps*, accuses Professor Zacharin of having neglected to ascertain the state of the late Czar's kidneys after his attack of influenza of last year. The surgeon of the imperial yacht Polar Star, while the imperial family were cruising last year along the coast of Finland, noticed that the Czar had œdema of the face. He secretly secured a specimen of his majesty's urine from a servant, analyzed it, and found evidence of advanced disease of the kidneys. He informed the court physician, Dr. Hirsch, of his discovery, and the latter having confirmed the diagnosis by his own examination, ordered immediate return to dry land, and residence in a dry climate.

Prize of the American Neurological Association.—The American Neurological Association offers a prize of $200 for the best essay on any subject connected with neurological science. This competition is open to physicians who are legal residents of states in North and South America. Essays must be sent to the Secretary of the Association on or before May 10, 1895. Each essay shall be accompanied by a sealed envelope containing the name and address of the author, and bearing on the outside a motto, which shall also be inscribed upon the essay. Essays shall be type-written, in either the English or French languages, and with the pages securely fastened. The Council of the Association reserves the right to reject any or all essays judged unworthy of the award. Each essay must exhibit original research, and none will be accepted that has previously been published. Græme M. Hammond, M.D., *Secretary*, 58 West Forty-fifth Street, New York City.

Divers Statutes for Pharmacists.—The *British and Colonial Druggist* has been making a study of the pharmacy laws prevailing in the different States and Territories, and publishes the following summary:

In the following all must undergo the State's examination: Washington, Mississippi, Nebraska, Ohio, Illinois, Rhode Island, Massachusetts, Michigan, Minnesota, New York, Wisconsin, Arkansas, Maine, New Jersey, Pennsylvania, Utah, West Virginia.

The following accept graduates of regular colleges of pharmacy: Florida, District of Columbia, Iowa, Missouri, Oklahoma.

Georgia.—This State accepts the certificates of Germany, France, Great Britain, Ireland, and Ontario. All others must submit to examination, but are allowed to practice until the regular meeting of the Board, provided they hold a certificate.

Virginia accepts the certificates of Great Britain and Ireland, but a bill is before the State Legislature which will render examination compulsory.

Louisiana accepts no pharmacy certificates. Pharmaceutical graduates of foreign universities are, however, recognized.

Wyoming.—The pharmacy law is a dead letter.

North Dakota will register persons if the board be satisfied as to their standing and character.

Oregon accepts the English and Irish certificates.

Texas.—There is no State board, but a separate board for each judicial district, and each board determines for itself what certificates will be accepted for registration.

Idaho.—No State board. Each county decides as to what certificates it will accept.

California accepts all certificates where four years' experience is required, and attendance at two or more courses of lectures.

North Carolina recognizes the Ontario certificate, and would consider any other certificates submitted and decide on their merits.

Kings County, N. Y., will accept the higher diploma of any teaching school of pharmacy in any country.

Baltimore.—The city of Baltimore admits persons holding diplomas from recognized colleges of pharmacy, based upon a full four years' apprenticeship as a pharmacist. All other persons wishing to practise must be examined.—*Bulletin of Pharmacy.*

A Royal Ancestress.—A princess of Roumania has recently been born, who makes the nineteenth great grandchild of Queen Victoria. *The Lancet* makes the auspicious occasion the text for a few loyally affectionate remarks upon the family tie, the joys of maternity, the emancipation of woman, the education of children, and various subjects with which the queen has had to do. "No one," says our contemporary, "can better appreciate the true purport and value of the family tie than our justly respected Sovereign. Her character and conduct have always tended to confirm its strength as a social force in this country. There is consequently a peculiar and beautiful fitness in the fact that her Majesty's domestic bond, long since formed, and afterward rudely severed by death, has proved through many succeeding strains fruitful in the happiness of home and children's love. We hear much daily of the freedom and the dignity of a new womanhood, which has for its object other and supposed worthier aims than the claims of maternity. We will not dispute the value and utility of some of these. We would be the last, however, to assert the superiority of their votaries to many women who can understand and fairly gauge the indispensable position of their sex in home life. The royal ancestress of sixty direct descendants, placed or to be placed in stations of responsibility, is, we doubt not, wisely cognizant of the high qualities necessary to a parent to secure the proper training of her children. Her own example has shown that the performance of this duty is not incompatible with other social or official functions."

A Slight Mistake.—This is an instance where a bad cold caused a startling conversation. A modest young newspaper man was invited to a party at a residence where the home had recently been blessed with an addition to the family. Accompanied by his best girl he met his hostess at the door, and after customary salutations asked after the baby. The lady was suffering from a severe cold, which made her slightly deaf, and she mistakenly supposed that the young man was inquiring about her cold. She replied that though she usually had one every winter this was the worst she had ever had ; it kept her awake at night a good deal at first and confined her to her bed. Then noticing that the scribe was becoming pale and nervous, she said that she could see by his looks that he was going to have one just like hers and asked him if he wished to lie down. The paper came out as usual the next week, but the editor has given up inquiring about babies.

Bacilli in Street-cars.—Experiments recently made by Dr. Ezra Wilson, bacteriologist of the Brooklyn Health Department, demonstrate the presence of bacilli in the dust and sweeping of the street-cars in that city. He has reported a fatal case of tuberculosis in a guinea-pig which had been inoculated with bacilli cultivated from dried sputum found in the cars. Health Commissioner Emory has decided, as a means of disinfecting the stations and cars of that city, that they shall be thoroughly cleansed every three days with a solution of bichloride of mercury. A sub-committee on the Prevention of Tuberculosis, of the Medical Society of the County of Kings recently recommended that a city ordinance be passed making it a misdemeanor to expectorate in any public conveyance, but the suggestion was not carried out.—*New York Medical Journal.*

Diminishing Birth-rates.—During recent years the birth-rate per thousand population has been diminishing in proportion to population in most civilized countries, as will be seen by the following table :

Country	1880	1890
United States	36.0	30.7
England and Wales	34.2	30.2
Scotland	33.6	30.3
Ireland	24.7	22.3
France	24.5	21.8
Belgium	31.1	28.7
German Empire	37.6	35.7
Austria	38.0	36.7
Switzerland	29.6	26.6
Denmark	31.8	30.6
Norway	30.7	30.0
Netherlands	35.5	32.9

Dr. W. Xavier Cudduth thinks that great singers have large antra, and draws the following conclusions from his study of the subject (*Journal of the American Medical Association*) : That the maxillary sinuses are developed with the growth of the individual after birth. That in some instances one or both are absent or but slightly developed. That they have no definite form and vary greatly as to size in different individuals. That there is a correspondence between the breadth of the face and the size of the antra. That in some instances they are divided into compartments by osseous walls, which effect resonance. That they are cavities intimately connected with the nasal fossæ, being separated therefrom, in part at least, by a thin membranous partition. That the air contained in these cavities vibrates in harmony with the tones produced by the vocal cords. That this vibration is most appreciable when the tones produced are full of melody, as in certain kinds of church music and negro melodies. That it is more prominent in singing than in speaking, unless a special declamatory effort is attempted. That there is a type of individual to which the successful vocalist and orator belongs, and which is indicated, among other things, by a considerable but harmonious development of the maxillary sinuses. That variation in the size and shape of the resonant cavities, when present, undoubtedly affects their value as resonators ; and finally, that certain races, noted for their melodious voices, are distinguished for the conformity of their physiognomy to the type above given for vocalists.

Sewer-Air and Diphtheria.—A correspondent of *The Lancet* writes that a year or two ago a new system of main sewerage with the ordinary road-level ventilators was inaugurated in one of the suburbs of London, and upon its being brought into use serious cases of diphtheria almost immediately began to break out. The medical officer of health at once had the drains flushed with a strong solution of perchloride of mercury, and the cases then stopped almost as quickly as they commenced.

The Mitchell District Medical Society held its forty-sixth semi-annual meeting at Mitchell, Ind., on December 27th and 28th, 1894. The programme was an attractive one, and many physicians from Cincinnati, Chicago, St. Louis, Louisville, Indianapolis, and other cities in the States bordering upon Indiana read papers.

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Original Articles.

THE INFLUENCE OF THE BICYCLE IN HEALTH AND IN DISEASE.[1]

BY GRÆME M. HAMMOND, M.D.,

NEW YORK.

PROFESSOR OF DISEASES OF THE MIND AND NERVOUS SYSTEM IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; PROFESSOR OF MENTAL AND NERVOUS DISEASES IN THE UNIVERSITY OF VERMONT.

ABOUT two years ago I called attention to the treatment of certain diseases of the nervous system by the proper use of the bicycle.[2] This was the first attempt, at least in this country, to call the attention of the medical profession to a therapeutic agent undoubtedly of great value. At that time comparatively few physicians had had any practical experience with the bicycle, but since then wheeling has taken hold of the popular fancy to such an extent that thousands now ride where formerly hundreds rode, and the medical man who at one time considered bicycle riding degrading to his professional dignity, now joins with his lay brothers in the pursuit of health and pleasure on the wheel. The universal popularity of the wheel—and it seems to be growing in favor every year—has undoubtedly not only been a source of great pleasure to thousands, but must also have had an appreciable effect upon the health, either beneficially or the reverse, and physicians are now arriving at a more intelligent conception of the possibilities of the wheel, both for good and for evil. The medical journals of this and foreign countries are daily adding to the literature of the subject by the reports of diseases which seem to have been induced or are aggravated by the use of the wheel.

The question concerning the deleterious effect on the human organism by the injudicious use of the wheel concerns the numerous specialists in medicine as well as the general practitioner. There is hardly an organ in the body which may not be influenced one way or the other by the proper or improper use of the bicycle; and hence it is that all medical men should study this question carefully and endeavor to arrive at the exact facts of the case. To this purpose I propose to consider the subject from the following stand-points: 1. The use of the cycle by persons in health. 2. The use of the cycle by persons diseased.

Little need be said about the rational use of the bicycle by healthy persons. It is only when the wheel is improperly or immoderately used that it constitutes a source of danger. The question will at once arise as to what constitutes this moderate and rational use. As men differ, among other things, in points of age, temperament, physical strength, and power of endurance, so is it absolutely impossible to prescribe any general rule which will be applicable to all men. Each individual must formulate rules for his own guidance, and if he is incapable of doing this either because he has not arrived at years of discretion, or because he recognizes his ignorance and distrusts his judgment, his medical adviser should be consulted, who by studying his physique, heart measurement, and lung capacity, can judge with considerable accuracy the amount of exercise which is most conducive to healthy physical development. But as a general rule, the average individual after a fair amount of experience, becomes quite competent to determine his own capabilities and requirements.

Let it be granted that an individual uses the wheel properly, what results should he reasonably expect to achieve? Statistics do not supply any information on this subject. No attempt has as yet been made, that I am aware of, to study the physical development of men who have been using the bicycle properly for years. I say for years, because the best effects of any form of exercise which is practised for the purpose of obtaining physical development, are never obtained rapidly and, particularly in young subjects, should only be studied after several years of continuous culture. There being no available literature on the subject, I am obliged to depend solely upon my own observations. This source of information must necessarily be very meagre. Although there are thousands who ride, there are comparatively few within my reach who have been riding long enough to render statistics on their physical development of much value. I have, however, collected fourteen cases of amateur riders who have kept accurate records of the years they have been riding, and approximate records of the number of miles they have ridden in this time. These cases I have examined and endeavored to tabulate the most important features ascertained. These men have ridden from five to thirteen years, and in that time have travelled from five thousand miles to twenty-seven thousand miles.

TABLE NO. 1.

Amateur Riders.

Cases.	Age.	Ridden a Wheel. Years.	Miles Ridden.	Chest Expansion. Inches.	Heart.	Muscular System.
1....	37	5	27,000	1¾	Slight hypertrophy.	Well developed.
2....	25	10	27,000	1¾	" "	Legs well developed, arms and trunk fair.
3....	36	5	8,000	2	" "	General development greatly beyond normal.
4....	42	12	24,000	1½	" "	Well developed.
5....	46	13	25,000	1	Normal.	Average.
6 ..	24	13	14,000	1⅞	Slight hypertrophy.	Well developed.
7....	25	10	20,000	1¾	" "	" "
8....	34	7	18,000	1⅝	" "	" "
9....	30	8	9,000	1½	Normal.	" "
10...	29	7	8,000	1⅛	Slight hypertrophy.	" "
11....	26	7	17,000	2	" "	Generally very muscular.
12 ...	24	6	7,000	1¼	Normal.	Average.
13....	39	5	6,000	1½	"	"
14....	24	5	5,000	1⅜	Slight hypertrophy.	Well developed.

Average chest expansion, $1^{4}/_{7}$ inch. Heart usually hypertrophied without dilatation. Average age, $31^{4}/_{7}$ years. Chest expansion, 13 riders above normal; 1 normal.

This table demonstrates two important facts very clearly. First, that men who have ridden a great deal for a number of years have acquired simple cardiac hypertrophy without dilatation; and second, that their breathing capacity is greatly in excess of that of the average man. The cardiac hypertrophy that I refer to is due to a simple increase of muscular tissue, and is in the nature of a healthy growth or development induced by exercise. It is precisely similar to the hypertrophy which occurs in any other muscle which has been used a great deal. Hypertrophy in this sense is purely a

[1] Read before the New York Academy of Medicine, December 19, 1894.

[2] Journal of Nervous and Mental Diseases, January, 1892.

relative term. For more than a century man has shown a tendency to develop the different qualities of the mind, and has paid but little attention to the gradual degeneration of the muscular system and to the consequential reduction of his powers of physical endurance. This has been one of the natural consequences of the rapid advance of civilization, especially in this country, and this, together with the great development of industries, commerce, and the professions, which have demanded the best energies of our men, finally made us a race of intelligent, clear-sighted, energetic, and nervous people, but very far short of the physical perfection seen in men in earlier ages. The dangers attending this physical degeneration of the race have of late years been gradually instilled into the public mind, and this has resulted in a healthful reaction. Men, and, what is of almost equal importance, women, are gradually beginning to comprehend the advantages of physical development, and are in a fair way to understand that the highest type of man, taken as a whole, is not represented by intellectuality alone, but more properly by a judicious combination of mental and physical vigor. Ten or fifteen years ago it was exceptional to find business and professional men and women who practised any special form of exercise. To-day thousands are making physical exercise an important feature of their daily duties; and what is of greater importance, we are educating our children to believe in physical culture and to practise it. The evolution of the bicycle to the form it presents to-day is probably the greatest factor which has influenced the spread of the doctrine of physical culture in this century. As a natural consequence of this gradual but universal physical development, which will only be attained in time, we must expect to observe a relative development of some of the internal organs, particularly of the heart and lungs. The simple hypertrophy of the heart observed in most bicycle riders who have ridden to any extent, will gradually become more common, and finally will be accepted as normal, and what is known to-day as the normal heart will then be considered degenerated.

A second glance at the table shows that all the riders have a greater breathing capacity than the average man. The chest of the average man expands an inch when the lungs are inflated to their greatest capacity. This has been carefully verified by myself and by others, who have measured many men whose lung-powers have not been developed by special forms of exercise. It is usually believed that the average chest-expansion is three inches, and there are many who can increase the girth of the chest much more than this. It is claimed, for instance, that Sandow's expansion is thirteen inches. This, however, is fallacious and does not by any means express the truth. It is accomplished by a forced expiration before the inspiration, and is then further augmented by "setting" the scapular and pectoral muscles. In the table I have prepared the average lung inflation is represented by a chest expansion of one and four-sevenths of an inch, which is an excess of four-sevenths of an inch above that of the average man.

This excess is unquestionably of great advantage to the individual possessing it, when it is taken into consideration what a great influence is exerted on the general health and on the proper performance of the functions of the various organs by a perfect oxygenization of the blood; and when there is added to this the action of a powerful, muscular heart, it can readily be perceived that bicycle riding, conducted properly and for a long time, induces a condition of cardiac and pulmonary development which must exert an enormous influence in maintaining the proper functions of other organs; in preparing the organism to resist disease; and in overcoming disease that has been contracted.

The muscular system of the bicycle rider is, as a rule, uniformly well developed. It is often claimed by those who are not properly informed, that the exercise develops the muscles of the legs at the expense of the rest of the body. This is not so. On the contrary, the muscles of the back, chest, arms, and abdomen are employed a great deal—not to the same extent as the muscles of the legs, but sufficiently so to consider bicycle riding an exercise inducing general development of the muscular system.

The observations recorded in Table No. 1 were made on men who have always ridden in the erect posture. A great deal has been said in regard to the pernicious effects of riding with the body almost, if not quite, at a right angle with the legs. A peculiar malformation of the spine has been reported to result from this posture, and it certainly seems as if the lungs, and consequently the heart, must be greatly hampered in performing their work. To obtain some information on this subject I have carefully examined fourteen professional riders, seven of whom are the most celebrated racing men in the world—men who have obtained national reputations as great riders; who have ridden more races than any other men; and who have ridden faster than any other men; and who always ride with the body at right angles to the legs. These observations I have tabulated in Table No. 2. In no case was there any deformity of the spinal column, and I may say here, if any such condition has ever been observed, the number of cases of it must be very few indeed. I have never seen a case of it. They were all well-built, muscular men, but differed from those in Table No. 1, who were all amateurs, in that in all cases there was an excessive development, compared to the rest of the body, of the muscles of the thighs, particularly of the *vastus internus* and of the muscles of the abdomen.

TABLE NO. 2.

Professional Riders.

Names.	Age.	Remarks.	Chest Expansion. Inches.	Heart.	Muscular System.
Zimmermann	24	American world's champion.	1¾	Hypertrophied.	Well developed. Extraordinary development of abdominal and thigh muscles.
Wheeler.....	25	American. Celebrated rider.	1¾	"	Well developed. Extraordinary development of abdominal and thigh muscles.
Edwards.....	23	England's champion.	1¾	"	Well developed. Extraordinary development of abdominal and thigh muscles.
Verheyn	20	Germany's champion.	1¾	Slight hypertrophy.	Well developed. Extraordinary development of abdominal and thigh muscles.
Colombo	23	Italy's champion.	2	Slight hypertrophy.	Very muscular. No special development.
Lesna	31	France's 24-hour champion.	2	Slight hypertrophy.	Very muscular. No special development.
Martin	25	America's 6-days champion.	2	Hypertrophied.	Very muscular, especially in the thighs.
Albert.....	28	American. 6 days rider and short distance racer.	1¾	"	Too slender for his height. Muscles not at all prominent except in abdomen.
Berlo	28	American. Short distance racer.	¾	Hypertrophied, but not strong.	Muscular thighs and abdomen. Chest somewhat sunken.
Knowles	40	American. 6,240 miles in 60 days racer.	¾	Hypertrophied.	Very muscular.
Foster	40	German. Long distance rider.	¾	"	Normal development.
Gross..... ..	28	American. Short distance racer.	1	"	Well developed.
Murphy, W. F.....	25	American. Class B racer.	¾	Hypertrophied, but not strong.	Not at all muscular except in thighs and abdomen.
Macdonald ..	18	American. Class B racer.	1¾	Normal and very strong.	Small but well developed.

Average age, 27 years. Average chest expansion, 1⅞ inch. Chest expansion, 9 above normal (these are celebrated riders); 1 normal (1 inch); 4 below normal.

The development of the abdominal muscles resulted from their continual contraction while maintaining the

riders in their racing position. All had cardiac hypertrophy without dilatation. At first glance it would seem as if the lung capacity of the professionals was fully as good as that of the amateurs, and this is true if the measurements of the national champions only are considered.

Table No. 2 gives the measurements of fourteen celebrated professional riders. Table No. 1 gives the same measurements in an equal number of amateurs. Comparing the measurements of amateur riders with those of the professionals, who are national champions, very little difference can be observed. These men who ride at racing speed, doubled up like a jack-knife, were as well developed, had just as powerful and healthy hearts, and their lungs could consume as much oxygen as those who sat upright and rode at moderate speed. But it must not be concluded from this that I mean to infer that *any* man can race and ride in the posture of a racer with impunity. Far from it. These men became professionals because they found that nature had particularly adapted them for fast riding. They make a business of it, and are always in the best possible physical condition.

If we turn, however, to the measurements of the other six professionals, whose inferior capabilities have not allowed them to become national celebrities, we find a very different state of affairs. One has the normal chest expansion of one inch, four below normal, and one is above normal. The latter, however, has been racing but a short time, having recently graduated from the amateur ranks. Comparing the fourteen amateur riders with the fourteen professionals, it will be seen that the average chest expansion of the amateurs is 1¼ of an inch, while that of the professionals is 1¾ of an inch. The expansion of thirteen amateurs is above normal, and in one it is normal. With the professionals the expansion is above normal in eight, normal in one, and below normal in four. It is quite probable, if professional riders of less phenomenal abilities were substituted in the second table in place of the national champions, the average chest expansion would be found to be below normal.

Excessive work on the wheel is, for the average man, unquestionably injurious, and it seems a fair inference to draw, from a study of these cases, that while many men will, in the course of time, ascertain that nature has adapted them so they may race with impunity, for a time at least, others who are led to emulate their example will certainly injure their health and undermine their constitution. This is parlicularly true of young lads, many of whom consider themselves the coming racing champions of the world. They can be seen in the streets and on the country roads, tearing along at the top of their speed, the body thrown forward, the back humped and the arms fixed and rigid, the chest necessarily contracted and preventing its proper expansion, at the very time when free movement of the chest walls is most necessary. In such cases healthy development is likely to be arrested, and cardiac dilatation, impoverishment of the blood, and lowered vitality of the system are probable consequences. Parents and physicians should use their authority to prevent this abuse in the rising generation, and a youth who will not ride properly should not be allowed to ride at all. It has been claimed that appendicitis can be sometimes attributed to this faulty position in riding. While it is undoubtedly true that persons who ride the wheel, no matter in what posture they ride, may have appendicitis, there is nothing in literature to prove any direct relation between appendicitis and bicycle riding as a cause and effect.

Riding great distances at rapid speed is an abuse of the wheel which cannot be too severely condemned. Anyone who witnessed the last six days bicycle race about a year ago, cannot but recall with disgust the sickening exhibition of exhausted riders, having to be lifted from and onto their wheels and carried to and from their quarters, their joints swollen and inflamed, barely able to see, and only kept in a conscious condition by the united efforts of trainers and physicians. This, however, is an extreme case, but it is not at all uncommon for large parties of riders of both sexes to go on what are called "Century runs," that is, to ride a hundred miles often within a limited number of hours. To many riders of experience, who are in good condition and possess excellent powers of endurance, this may not be a difficult feat to perform, but many others in making the attempt suffer from exhaustion which leaves its traces for several days. There are others again, who travel shorter distances, but who ride at such speed that they return home thoroughly tired out. This, if it occurs only occasionally, is perhaps of little moment, but when the repetition is frequent it is undoubtedly injurious.

Moderate exercise, properly performed, invigorates the system, strengthens the muscles, and increases the powers of physical endurance, but excessive and exhaustive exercise does none of these things; on the contrary, it is decidedly injurious to health and should never be encouraged. Under certain conditions diseases of the genito-urinary tract may with great probability either be induced, or else, if they already exist, they may be aggravated. Cases of prostatitis, urethritis, and cystitis have been reported, which seem to show quite conclusively that the friction or jolting of the perineum against the saddle was the exciting or aggravating cause. Such cases are due to the carelessness or ignorance of the rider. An individual in riding the cycle, just as in riding the horse, should sit upon the gluteal muscles and not upon the perineum. All bicycle saddles can be tilted either forward or backward, and every person who rides should so adjust the saddle that the weight of the body is borne by the gluteal muscles and not by the perineum, otherwise it is quite probable that injurious results may follow. In regard to the excitation of the genital organs in both sexes, I am quite confident that this never occurs, unless it is done purposely or else by the greatest negligence. A woman who wishes to obtain friction of her genitals on the wheel can easily do so by adjusting her saddle for that purpose. But if she does so her position will be so uncomfortable as to deprive riding of all enjoyment. She may ride for the purpose of obtaining genital irritation, or she may ride with perfectly proper motives, but she cannot do both at the same time.

In the male the case is different. Riding upon the perineum may in many instances cause genital irritation, but this can be effectually prevented by the proper adjustment of the saddle. It can therefore be seen that these diseases or conditions are by no means necessary consequences of bicycle riding. On the contrary, they can be remedied in all cases by the intelligent comprehension of the wrong and its remedy.

The question is often asked, shall women suffering from abnormal conditions of the uterus and ovaries ride a wheel? I was much pleased, at a recent meeting of the Gynecological Section of the Academy, to listen to the opinions of our leading gynecologists on the subject. It seemed to be the general opinion that this form of exercise was not only not injurious, but that in many cases of disease it was highly beneficial, either as a means of relieving local congestion, or else acting indirectly on the pelvic organs by improving the general health of the patient.

There is one other condition which deserves mention, and which I am not aware has called forth any comment up to the present time, and that is the effect of bicycle riding on the air-passages and as a cause of mouth-breathing. On examination I found all of the men enumerated in table No. 2, and who were professional riders, breathed through the mouth while riding, and that eight of these were habitual mouth-breathers. The majority of the amateur riders I have questioned on this subject admit that they breathe through the mouth

while riding, but whether the proportion of mouth-breathers is greater among cycle riders than among those who do not ride, I do not know, but it is a matter that deserves investigation.

The use of the wheel by persons diseased, when considered in the light of a therapeutic agent, is a subject of considerable importance. It also leads us to inquire whether there are not physical conditions under which the bicycle should be absolutely prohibited. In certain diseased conditions of the heart, bicycle riding may prove very beneficial. In simple degenerated conditions of the muscular fibres, in dilated hearts either with or without compensatory hypertrophy, and in slight valvular affections, bicycle riding, when properly practised, may prove of great service, because it improves the nutrition of the organ and develops the muscular fibres, thereby enabling the heart to perform its work more effectually. But no one suffering from any cardiac affection should ever ride a wheel, unless advised to do so by his physician; and in such instances the physician should make frequent examinations in order to determine whether benefit is being derived from it or not. Where exercise is advisable in heart affections, I know of no better method of obtaining it than by the proper use of the wheel. By riding slowly and on an approximately flat surface the mildest cardiac exercise can be obtained, and this, as the heart improves in strength, can be increased by degrees, and in direct ratio with the cardiac development. By this means the strength of the heart can be greatly increased, thus causing a natural compensation for many abnormal conditions.

But bicycle riding can cause as well as cure cardiac degenerations. If an individual compels his heart to work beyond its capacity and the abuse becomes in any sense continuous, the danger of cardiac degeneration becomes imminent. This is more particularly liable to occur in subjects whose cardiac muscular fibres are abnormally weakened from disease, dissipation, or from long neglect of such exercises as are requisite for maintaining the heart in a healthy condition. In valvular lesions also immoderate riding will unquestionably aggravate existing abnormal conditions, and perhaps superimpose another cardiac disease upon the original one. In short, it may be said that bicycle riding may benefit or injure the heart according to the condition of the heart and the manner in which the individual conducts his exercise, and the general principle may be adduced that, while the moderate use of the wheel is conducive to cardial development, the excessive use endangers cardiac degeneration. I cannot agree with the decision of the French Academy, that "no one should ride a wheel without consulting a physician;" but this rule certainly should apply to all persons who have cardiac disease and to all others whose general health, vitality, and physical strength are to any degree below the normal. What has just been said in relation to cardiac diseases applies in the main to pulmonary affections. I have already shown, as far as the limited number of cases at my disposal permit, that bicycle riding, when practised by a healthy person, unquestionably develops the lungs and increases their capacity greatly beyond what is now considered to be normal. The knowledge of this fact may be taken advantage of in the treatment of those pulmonary conditions in which a breaking down of tissue will be the natural and probable consequence in the course of time. Moderate exercise of the lungs by the moderate use of the wheel practised systematically and for a long time, will undoubtedly retard and perhaps completely arrest some degenerative changes in the lungs. This will follow not only from the direct effect of pulmonary development, but also from the generally improved physical condition which is always a prominent feature of bicycle riding when rationally practised. On the other hand, I can conceive of nothing which will be more injurious to certain abnormal pulmonary conditions than the excessive use of the wheel. Not only will this tend to accelerate degenerative processes, but it may also induce them in persons predisposed, particularly if the general vitality is simultaneously diminished.

The same general rule can be formulated here that seemed to be applicable to the heart, that is: That the moderate and proper use of the wheel results in pulmonary development, while the excessive use may be followed by injurious consequences.

In my former paper I showed, by the report of a number of cases, that in certain diseases of the nervous system bicycle riding was very serviceable. That report referred mainly to cases of functional and organic paralysis, and to neurasthenia and hysteria, and demonstrated that in these conditions great improvement was obtained directly from the use of the wheel. My opinions were so fully expressed at that time that it is needless to refer to the subject again, except to state that my experience in the past two years, since that paper was published, fully corroborates the views I then entertained. I only desire to state in addition that I have carefully studied the effects of bicycle riding on numerous cases of functional dyspepsia and constipation, and have observed great benefit in most instances, but only in those cases in which the riding was followed systematically. There are two other conditions I desire to refer to before I conclude what I have to say, in which bicycle riding seems to exert a beneficial influence. These are gout and diabetes. Possibly both of these diseases are benefited by the great quantity of oxygen consumed; by the improvement in digestion and assimilation; and by the effect that prolonged muscular action has on eliminating certain substances from the system which are either poisonous *per se*, or else become so by conversion. In two cases of subacute gout I have prescribed the use of the wheel and have every reason to feel satisfied with the results. In only two cases of diabetes have I had the opportunity of making observations in regard to the effect of this exercise on the excretion of sugar. These few cases are not sufficient to allow the presentation of any absolute deductions, but the results obtained were sufficiently encouraging to warrant further investigations in this direction. If we accept the view that the manifestations of gout depend upon an excessive formation of uric acid in the system, it can be readily understood, theoretically at least, how bicycle riding can modify or arrest this process. First, by the improvement in digestion and assimilation; second, by the greater demand upon the nitrogenous compounds required by the repair of the muscles; third, by the increased oxygenation of the blood which increases the elimination of urates; and fourth, by the further elimination of morbid material through the increased activity of the sweat-glands.

This theory may be susceptible to criticism, but whether it is correct or whether we must look further for the reasons, the fact remains that benefit is derived in these cases from the use of the wheel. In the two cases of diabetes, experimental studies showed that in both cases, and with no change of diet, the amount of sugar excreted was diminished when the bicycle was used regularly. The explanation of this fact seems to be reasonable, and is similar to that just offered in reference to gout. The waste taking place in the muscles is repaired from the nitrogenous elements, which otherwise would be converted into urea and then into sugar. The larger the muscles are that are wasted, the greater quantity of nitrogenous substance will be required to complete repair. The largest muscles in the body are in the lower extremities, and consequently bicycle riding, which calls these muscles into active use better than any other form of exercise, operates to excellent advantage. The heart also need not be exercised unduly, which, in these cases, is often a point of considerable importance. It is impossible, in an article on this subject, to enter deeply into the discussion of each one of the subjects touched upon without making a paper

of interminable length. I will therefore conclude what I have to say by the statement, that experience has shown me that bicycle riding for a healthy individual is one of the most excellent forms of exercise for maintaining health, retarding disease, and strengthening the constitution, and is also a pleasant recreation for the mind; and that in many forms of disease, when used cautiously and under medical supervision, it will often be found of inestimable advantage.

THE VALUE OF THE MODERN DIAGNOSTIC METHODS IN DISEASES OF THE STOMACH.[1]

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In opening the discussion to-night, I would at the very outset state that in the short space of time allowed me it will be possible to take but a cursory glance at the wide field of the modern diagnosis of the diseases of the stomach.

With the exception of bacteriology, no other branch of medicine has witnessed such rapid progress. The advances in the last ten to fifteen years are the direct result of the introduction of the stomach-tube. In fact before the days of Kussmaul and Leube most of what was known about gastric digestion was based upon observations made upon the few bearers of fistulæ, like Alexis St. Martin. A problem which only fifty years ago seemed impossible of solution to even so shrewd an observer as Frerichs, has been cleared up by the employment of the stomach-tube and the various test-meals. With such simple means we can, with very little discomfort, evacuate the stomach at almost any time we choose, and we are thus enabled to study the processes of gastric digestion at our will.

To follow up so promising a lead was but natural; and soon a vast array of observations attested the diligence with which these studies were pursued. It was an age of chemical enthusiasm in which all the refinements of organic chemistry were employed to discover subtle tests for determining the various values of hydrochloric acid in all its combinations. To such an extreme did this movement go, that Bunge claimed as the result of comparative chemical tests in various animals that the stomach's principal function was to secrete enough hydrochloric acid to keep its contents sterile. Then, again, gastric diseases were classified according to the variations in the amount of hydrochloric acid, a method which, as Ewald properly says, is as unphilosophical as that which formerly grouped diseases into those with and without jaundice, dropsy, etc. Another manifestation of this spirit is seen in the declaration of Martius, that he would treat no case of gastric disorder unless the patient were willing to submit to a routine examination of the stomach-contents, the only exceptions being cases of weak heart and aneurism.

The statement has been repeatedly made that such examinations stand in the same relation to gastric diseases as urinary analyses do to the various forms of nephritis. Against this I wish to enter a most vigorous protest. Routine stomach-analyses do not occupy such a position, and even were they a hundred times more delicate than they now are, not even then would they do so. Were the functions of the stomach as relatively simple as those of the kidney, this comparison might hold. But the most cursory examination of the structure and innervation of the stomach ought at once to reveal the fallacy of such a claim. The stomach is the centre of a plexus the ramifications of which extend directly or indirectly to nearly all the important organs of the body. The pneumogastric and sympathetic innervation of the stomach must never be overlooked in comparing it to other organs; nor should we ever forget that delicate functional changes which play so important a part in reflex dyspepsias can never be determined by chemical analyses, not even the most complicated.

In other words, I believe it to be an error to employ the tube indiscriminately in every case presenting gastric symptoms. To quote the words of Boas,[1] its use ought to be restricted to such cases in which the symptoms render a diagnosis uncertain or impossible. It is contra-indicated where its introduction would be accompanied with some danger to the patient, as in advanced cardiac and pulmonary diseases, aneurism, pregnancy, old age, cachexia, gastric ulcer, broken-down cancers, etc., or where the other symptoms alone will permit a positive diagnosis.

I have purposely laid stress on this point, for in our enthusiasm for so valuable an aid as the tube many old and well-tried methods have unjustly been neglected. Among these is inspection. This should begin in the mouth. The condition of the teeth and gums afford as much, at times more, information than does the tongue. Dentists have taught us a very valuable lesson in showing that changes in the gums may be among the earliest symptoms of serious constitutional disorders. So valuable a prognostic aid ought not to be neglected.

Still more important is inspection of the abdomen. How much may be gained by this simple means has been shown by Osler in his recent lectures on abdominal tumors. In ten out of thirteen cases of dilatation of the stomach, the diagnosis was made by inspection alone.[2] I would also direct your attention to increased peristaltic action of the stomach, a sign revealed by inspection, but one which is very frequently overlooked. When present, a careful examination of the motility of the stomach ought to be made, for it signifies either a neurosis, an obstruction at the pylorus, or a displacement of the stomach. When the waves are very active in the latter two conditions, the shape of the stomach is often very distinctly outlined upon the abdominal parietes.

The main object of the physical examination of the stomach is the determination of its size and situation, as well as the palpation of tumors. The great abundance of methods for the former is proof that none of them is perfect. To obtain satisfactory results we must employ several of them. Succussion is very unreliable, and great care must be taken to differentiate it from that arising in the transverse colon; while percussion of the undistended stomach leads to many errors. These latter may be prevented by inflation either by generating carbonic-acid gas *in situ*, or by pumping in air through the stomach-tube by means of a double bulb. Still another means is to distend the colon with water. In the former method we employ one drachm each of sodium bicarbonate and tartaric acid, each salt being separately dissolved in half a goblet of water, the one being swallowed after the other. An ordinary Seidlitz powder may also be used. Ziemssen recommends larger quantities. I believe, with Osler, that in the majority of cases this method is preferable to the pumping in of air, since it does not require the introduction of the stomach-tube. Nevertheless, the latter method is the more accurate, and should always be employed when the results obtained with CO_2 are unsatisfactory, as occurs in very large stomachs, or where we wish to supplement the inflation by pumping in water to ascertain the exact capacity of the stomach.

In drawing inferences from the latter we must never forget the great differences which exist, normally, in

[1] Read before the New York County Medical Society, December 24, 1894.

[1] Diagnostik und Therapie der Magenkrankheiten, 3te Auflage, Band I., p. 96.

[2] Lectures on Diagnosis of Abdominal Tumors, New York Medical Journal, p. 163, October 10, 1894.

different individuals, in the size of their stomachs, and that an organ which is considered dilated in the one would be normal in another person.[1] Another source of error in this test is the varying ability of patients to retain quantities of fluid or air large enough to distend the gastric walls to their full capacity. Nor must we imagine, even if the size and situation of the stomach are ascertained, that we necessarily know its capacity for work, for I would also remind you that many writers, such as Rosenbach, Schreiber, Naunyn, Bouchard, Boas, and others, have demonstrated that many stomachs which are normal in size and situation are mechanically insufficient.

Of the many other tests for determining the situation of the stomach I shall only allude to Einhorn's gastrodiaphane. This instrument consists of a small incandescent lamp which is attached to the end of a stomach-tube. The patient having swallowed one or two glasses of water, the instrument is introduced and the current turned on. A reddish illuminated area, of various shape and size, is seen normally upon the abdomen, unless the patient is too stout. From my own experience I can say that the method is both simple and valuable; but it would be advantageous if a uniform and larger quantity of water were always employed, and if some means could be devised to lessen the translucency of the transverse colon. This difficulty I have sought to remedy by injecting dark-colored fluids into the colon.

The instrument is also of service in detecting gastroptosis or displacement of the stomach. Normally, on deep inspiration, the stomach moves downward; with the electric lamp this is clearly shown by a downward displacement of the illuminated area. This does not occur when the stomach is displaced and is no longer in contact with the diaphragm. However, the same results may be obtained with much simpler means; as, for instance, by carefully marking on the abdomen the outlines of the distended stomach, and then noting the changes in percussion on deep inspiration. Furthermore, if the displacement is marked, the increased peristalsis will often distinctly reveal the position of both the upper and lower curvatures of the stomach.

And now to consider what diagnostic information may be obtained with the stomach-tube, the test-meals, and the various chemical procedures.

As to test-meals employed, nearly all have agreed that the best is that known as Ewald's test-breakfast, which consists of a cup of tea, without milk or sugar, or simply a cup of hot water, and a roll or one or two slices of bread. It were well if it were used in all the routine tests of the chemical functions of the stomach, both for the sake of uniformity and because it is simpler and more cleanly than any other. Should the results be unsatisfactory, we can still resort to the more complicated dinners of Leube and others, which more closely resemble what the stomach is ordinarily called upon to digest.

To obtain stomach contents for examination the method of expression ought to suffice in most cases. This consists simply in bearing down as if at stool, the increased intra-abdominal pressure causing the chyme to rise into the tube. Stripping the tube will often aid in starting the syphonage. Where this fails we may aspirate with a Politzer bag or Boas's bulb[2] or attach the tube to an aspirating bottle with a low vacuum. We ought never to rely upon the results of one meal alone, but ought, especially in doubtful cases, to make at least three trials to allow for normal variations.

Although filtration of the stomach-contents lessens the acidity somewhat, yet for practical purposes this change may be disregarded. Some experiments which I made with the centrifuge to obtain clear fluid without filtration failed, as the fats rose to the surface, while the remainder of the fluid was too thick to separate readily.

As we find them described in the text-books, the various chemical tests are far too numerous, and many are much too complicated for use in general practice. The fact that so many have been recommended shows that the ideal methods are still to be found. But few of them have escaped criticism. We might apply the same statement which has been so often heard in reference to the innumerable tests for albumin and sugar in the urine—select certain of them, make yourself master of them and leave the balance for the enthusiast and the specialist.

Those which seem to me to suffice are: Litmus paper for general acidity; Congo red and tropæolin papers for free acidity; Günzburg's phloroglucin-vanillin test for free hydrochloric acid;[1] Uffelmann's carbolate of iron test for lactic acid. For total acidity titration with decinormal soda solution with phenolphthalein as the indicator. Starch and dextrin may be tested with dilute Lugol's solution and the biuret test will show the presence of peptone. The general digestive power and the presence of pepsin may be ascertained with the trial digestion of discs of albumin.[2] The milk-curdling ferment may be readily determined by adding a few drops of stomach-contents to 10 c.c of milk and allowing it to curdle. Finally there ought to be a microscopic examination of the chyme.

Numerous as are the above tests, yet twenty minutes or even less will suffice to apply them all, provided one is equipped with the necessary apparatus and experience. For the details I would refer you to the text-books of Ewald, Boas, Rosenheim, Leo, Jacksch and others, which describe them in sufficient detail.

Excluding factors of minor importance, the object of the chemical tests is to show variations in the amount of hydrochloric and lactic acids, pepsin, and rennet. The ferments may at once be dismissed from consideration, for on careful analysis in three hundred and fifty-four patients, Bouveret found them absent only twice.

Up to a relatively short time ago the relations of hydrochloric acid were considered the touchstone of all gastric analyses. So long as the absence of hydrochloric acid was considered pathognomonic of cancer, and its excess significant of ulcer of the stomach, we may readily understand why these determinations were considered of such great value. But we have since learned that free HCl may also be absent in chronic gastritis, atrophy of the gastric mucosa, during menstruation, acute febrile diseases, severe nervous depression and also in many chronic wasting diseases such as severe anæmias, tuberculosis, Addison's disease, diabetes, cardiac lesions, etc. As well put by Rosenheim, in determining the absence of free HCl we do not, strictly speaking, diagnosticate the cancer, but the accompanying gastritis and atrophy.

In this connection Wagner's[3] researches are very interesting. He examined 216 successive patients, male and female, with chronic gastro-intestinal complaints, and failed to find free HCl in 39 of them, of whom only 6 were suffering from malignant disease of the stomach. In 12 of the 33 non-cancerous cases, the secretion was either neutral or alkaline in reaction and did not contain peptone; while in the other 21, the reaction was acid and peptones were present. Most frequently the absence of free HCl was noted in persons between twenty and thirty years of age.

Nor is the persistent absence of this acid inconsistent with many years of apparently perfect health, for quite

[1] A very instructive paper by Riegel, in the Deutsche Medicinische Wochenschrift, No. 15, 1894, distinguishes very clearly between the physiologically large stomach and that which is atonic or dilated.

[2] Boas: loc. cit., p. 128.

[1] I cannot agree with Friedenwald and Benedikt, who recently strongly urged the claims of Boas's resorcin test as being superior to that of Günzburg. Although the limits of both tests are practically the same, yet I have found the latter reagent to be more prompt and positive. On the other hand the resorcin reagent is much cheaper and keeps better.

[2] See Ewald's Diseases of the Stomach, American translation, p. 47.

[3] Vratch, No. 194. See also British Medical Journal Epitome, March 31, 1894.

a number of such cases have been reported by Ewald and others. Here the intestines act vicariously for the stomach, or we may apply Ewald's[1] discovery that peptone may be formed in the stomach even in the absence of free HCl. Finally, we must mention the anomalous cases of gastric carcinoma in which HCl may even be present in excess.

So with the question of hyperacidity. This may be demonstrated not alone in ulcers, but also in gastric neuroses, in the early stages of chronic gastritis, or it may be a normal phenomenon. There are also ulcers of the stomach in which the acidity is subnormal.

Where, then, are the absolutely diagnostic features of these tests for hydrochloric acid? Even so enthusiastic a writer as Boas[2] admits that any anomaly in the secretion of HCl, considered by itself, does not with any certainty indicate the existence of a gastric disorder. We need not be surprised at such a conclusion, for the stomach has other functions besides the secretion of HCl, among which may be mentioned the formation of ferments, the absorption of peptones, water, and salts, and the churning and expulsion of the chyme. We do not yet know with any certainty how HCl is secreted, nor are we agreed in our conceptions of the free and combined forms of this acid. On the one hand, it is absolutely wrong to assert, as has recently been done by Herschell[3] and others, that these chemical tests are superfluous, and that the acidity of the stomach contents may be inferred from that of the urine. The difficulty with all these tests lies not in the results, but in their interpretation; for it must never be forgotten that distinct pathological processes do not produce corresponding sharply defined changes in the chemism of the stomach.

Bearing this in mind, I shall now give you Boas's *résumé* of the present views as to the diagnostic significance of the variations in the amount of hydrochloric acid:[4]

1. *HCl is normal* (0.1 to 0.2 per cent. HCl).—This is either indicative of a normal condition, or at least speaks against the existence of a serious structural lesion of the stomach. In the presence of vague gastric symptoms, which may indeed result from almost every internal disease, such a result is of the greatest practical importance. Should all the symptoms point to the stomach, then the occurrence of normal acidity indicates nervous dyspepsia or some intestinal disturbance. The determination of normal acidity is of especial value in differentiating nervous dyspepsia from chronic gastritis with lessening of HCl, especially since the subjective symptoms of both are very similar. At the same time we must not forget that lessened HCl may occasionally occur also in nervous dyspepsia. Furthermore, the normal amount of HCl may not unfrequently be found in atony of the stomach.

2. *HCl is lessened* (HCl less than 0.1 per cent.).—Where this result is constant, we may suspect a subacute or chronic gastritis; yet lessening of HCl may also occur in ulcer of the stomach or duodenum, incipient carcinoma, dilatation and atony of stomach, regurgitation of bile into stomach, etc.

3. *HCl is increased* (HCl more than 0.2 per cent.).—Is most frequently symptomatic of gastric neuroses; is present in a considerable number of gastric ulcers; but this is by no means a constant occurrence. May also occur in incipient chronic gastritis or pyrosis. May also be found in an ulcer which has undergone carcinomatous degeneration, provided all the symptoms of cancer of stomach are present.

4. *HCl is absent* (inacidity).—When primary, is most frequently found in advanced chronic gastritis. Furthermore, it is of not infrequent occurrence in gastric neuroses. Differentiate the two usually by the absence of ferments in the former. Is also found in gastric cancer. The significance of this symptom may be formulated thus: *a*. In general, the positive demonstration of free HCl denotes the absence of cancer, provided the other symptoms of a neoplasm are absent (tumor, cachexia, etc.). *b*. The absence of free HCl is positively indicative of cancer when at least two other clinical symptoms of this condition are present (tumor, cachexia); there is a strong probability of this lesion when, besides the absence of HCl, we also have cachexia and the symptoms of pyloric stenosis, and no suspicion of ulcer. *c*. In the differential diagnosis between ulcer and cancer, the former is indicated if the HCl tests are positive and no tumor is palpable; while if negative, the chances are against ulcer.

5. *Where HCl is variable.*—Where the conditions of test are constant, this is strongly indicative of a neurosis.

6. In the secondary dyspepsias of phthisis, nephritis, diabetes, etc., the various tests have no diagnostic value, but may be of use in the dietetic treatment.

It is only recently that lactic acid has had any diagnostic significance, and to Boas[1] belongs the credit of having called our attention to its importance in the early diagnosis of gastric cancer. He claims that inasmuch as this acid or its salts are always present in the various test-meals which contain bread and meat, it is necessary to employ a special test-breakfast when this acid is to be estimated accurately. For this purpose he gives one to two litres of a thin oatmeal gruel, to which only some little table salt has been added. It is expressed after an hour.

To be of any significance in this and other test-meals the canary-yellow color obtained with Uffelmann's test must be very well marked, as faint yellowish discoloration may be produced by many substances, such as sugar, alcohol, phosphates, etc. Therefore to be certain we ought to apply the test to the ethereal extract of the chyme, or, still better, employ certain chemical procedures which he has proposed. The latter are much too complicated for general practice.

Boas has asserted that where a large amount of lactic acid is present and the tests for free HCl are negative, there is a strong probability that a cancer of the stomach is present. Fermentation lactic acid being the product of the lactic-acid bacillus it cannot be produced in the presence of free HCl; furthermore Boas has proven that it is either absent or present in faint traces in benign gastric affections, such as chronic gastritis, atony, dilatation, neuroses, etc. It is only formed in large amounts where there is stagnation of the stomach contents, and where free HCl is at the same time absent. He therefore asserts that where these three factors are constant, *i.e.*, absence of free HCl, stagnation of stomach contents, and the formation of large quantities of lactic acid, the diagnosis of gastric carcinoma may be made even in the absence of a palpable tumor.

These tests therefore assume great importance in the early diagnosis of this disease—in other words at the time when excision of the neoplasm, the only cure, can be radically performed. The correctness of these views has been acknowledged by Rosenheim and Bouveret, and has been demonstrated practically by Boas and his assistants in a number of cases in which such early diagnoses were made and subsequently verified. I also have records of several such cases, which I shall soon publish.

It is to be noted that Boas admits that the absence of lactic acid does not exclude a cancer, as where free HCl is present or where stagnation does not occur.

I wish to add that these diagnoses ought not to be made unless subjective symptoms are present, such as loss of weight, anorexia, etc.

Of the remaining tests we may at once dismiss those for determining the absorptive powers of the stomach, as suggested by Penzoldt and others. But little information may be gained from them except in serious changes

[1] Ewald: Krankheiten des Magens, 3te Auflage, p. 579.
[2] Loc. cit., p. 172.
[3] On Indigestion, p. 94. London, 1893.
[4] Loc. cit., p 172.

[1] Deutsche Medicinische Wochenschrift, No. 34, 1893.

in the mucosa. But these conditions give so many other important signs that the tests become practically superfluous.

Far more important are the methods by which the motility or peristaltic powers of the stomach is determined. As I have already shown, among the chief functions of the stomach are the churning and expulsion of the chyme into the duodenum. Indeed Ewald has asserted that apparently perfect health may be maintained for years when the secretory activity of the stomach has ceased, provided the viscus retains its motor power. Of what avail are an abundance of HCl and pepsin unless these agents can be thoroughly incorporated with the food, and the liquefied chyme passed on into the intestines? We all know that peptone formation ceases when a certain percentage has been reached, and hence digestive activity ceases, unless these products are absorbed or evacuated into the duodenum. Not until the motor functions fail do very many gastric disorders become serious. The excessive formation of lactic acid which occurs in cancer of the stomach is due to a lessening of the gastric motility which results from the infiltration of the muscularis by the neoplasm. Furthermore, a stomach may be large and yet be competent, while, on the other hand, a small stomach may be unable to do its work. So, too, a stomach may be displaced and yet be able to churn and expel its contents. Hence the necessity, as I have already shown, of not alone knowing the size, situation, and secretory activity of the stomach, but also its motility. The tests usually employed for this purpose are the salol test, as proposed by Ewald and modified by Huber; Leube's method of ascertaining whether the stomach is empty six hours after taking his meal, or Boas's method of giving a light supper and passing the tube early the next morning, when, under normal conditions, the stomach ought to be empty.[1] For determining the peristalsis of the stomach Einhorn has recently presented his gastrograph,[2] an instrument much too complicated for general use. It must be confessed that as yet we possess no ideal methods for determining the motor functions of the stomach.

This concludes what I have to say about the positive diagnostic value of the modern methods for examining the stomach. And yet, in a negative way, they frequently have an even greater significance in the differential diagnosis of obscure cases. To cite but a single group of cases, those patients who present vague symptoms and in whom we are in doubt whether the stomach, liver, or intestines are at fault. The demonstration of a normal chemism and motility of the stomach will quite readily enable us to exclude this viscus from our consideration, or, at least, lessen the probability of its being seriously at fault.

Finally, I ought not to neglect to mention the great aid which is often afforded by the various diagnostic procedures in the medicinal and dietetic treatment. No other means at our disposal furnish such valuable information concerning the administration of acids, alkalies, and ferments, and so clearly indicate the diet which is suitable to individual cases.

The followed conclusions may be formulated:

1. The great advance in our knowledge of gastric diseases is due to the introduction of the modern technique.

2. Although the tests for free hydrochloric acid are of service in diagnosticating the various affections of the stomach, yet the results obtained are of themselves by no means absolute.

3. Too little attention has heretofore been paid to the motor functions of the stomach. A careful examination in this direction will often yield much valuable information.

4. In the absence of free hydrochloric acid and when there is stagnation of the chyme the presence of large quantities of lactic acid is significant of cancer of the stomach, provided there are general symptoms of beginning cachexia.

5. The various chemical procedures give much information in directing the therapeusis and dietetic treatment of patients.

6. The diagnostic use of the tube ought to be restricted to cases in which the subjective symptoms and course of the disease will not permit a positive diagnosis.

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[1] Deutsche medicin. Wochenschrift, p. 577, July 12, 1894.
[2] New York Medical Journal, September 15, 1894.

MEDICAL TREATMENT OF THE DISEASES OF THE STOMACH.

By A. JACOBI, M.D.,
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Mr. President: In the short time you placed at my disposal I shall review the more important remedies available in gastric disorders, the principal symptoms attending them; and a few of the local affections, such as ulcer, hemorrhage, and cancer. What I have the honor of presenting, is not claimed as new, or "modern," but is offered as what I have been, and am, in the habit of recommending and employing.

Some of the abnormal conditions of the stomach depend on anomalies of distant organs. Hyperæmia and catarrh result from disorders of circulation in the chest and abdomen. Incipient pulmonary tuberculosis, chronic pleurisy, particularly the diaphragmatic form, peribronchitis, emphysema, every variety of asthma, diseases of the heart and the great blood-vessels are frequently the causes of the various forms of dyspepsia. It is these causes which require treatment and not to the same extent the gastric disorders. Thus it is that the latter may be remedied by gymnastics of the chest, or by digitalis.

Irrigation through the stomach-tube is indicated, and frequently does good, when there is protracted nausea and inflation, and the taste is sour or bitter. To continue this treatment indefinitely is not indicated, or to rely on its continuation for its moral or psychic effort is injudicious, for a neurotic patient will not be influenced more by ten irrigations than by two. On the other hand, it is true that two or three irrigations will hardly suffice sometimes to clear the cavity of all the remnants of food that may have accumulated. Cases of sarcina are particularly obstinate.

Irrigations are certainly contra-indicated in most cases of gastric ulcer, of acute gastritis, except the cases produced by poison or fermenting food, in painful and in ulcerative pharyngitis, and they ought to be made with great caution when the sound has to pass a dilated heart, a large aneurism, or an elevated or strictured œsophagus. The tube should have a double opening at its lower end, it should be soft, and must not be carried far beyond the cardia. By measuring the distance from the chin to neck and along the vertebral column down to the ninth dorsal vertebra the necessary length can be found. The tube may be moistened with warm water—vaseline and glycerine are nauseating to many—and is carried down to the œsophagus; then the patient is told to make the movement of deglutition, and repeat it when the tube reaches the level of the larynx. He must breathe regularly and hold his basin with both his own hands; 500 gm. of water, or warm alkaline water are then run in, once or several times; it is not the whole amount that will come up again, for a small part will be absorbed in the stomach, and more is apt to escape into the intestines. A slight up and down movement before withdrawal prevents the mucous membrane from being caught and torn.

Irrigations are indicated when large masses of mucus cover the interior of the stomach and separate the ingesta both from the absorbent and the secreting epithelium. In these cases chloride of sodium and carbonates act as solvents. In bad cases of chronic gastritis solutions of nitrate of silver (1 to 2,000) will do

good after warm water with carbonate of sodium (not the chloride) had preceded them ; also warm water in which subnitrate of bismuth has been suspended.

Papayotin (Papain), the powder, or a five per cent. solution, digests meat. In an atonic and non-secreting stomach it is therefore an excellent aid to digestion. Such specimens of disintegrated meat and cheese I demonstrated to the State Society when ten years ago I detailed the effect of the remedy on croup membranes. My remarks on that occasion have been utilized contrary to my protest by a mercantile firm who advertise a preparation which they call papoid. How much papayotin is contained therein the gods and the firm's chemists may know. I do not, but I do know that the use of my name in the circulars is an unmitigated fraud.

Pancreatin, the ferment of the pancreas, transforms starch into dextrin and sugar, splits fat, when emulsionized in the pancreatic juice, into glycerine and acids, and peptonizes albuminoids in alkaline solution. In acids it has no such effect, indeed it is decomposed. Therefore I never comprehended what good it could do when introduced into the acid stomach.

Pepsin in water and hydrochloric acid dissolves albuminates. When the stomach furnishes none, or an insufficient quantity, for instance in anæmia, chronic tuberculosis, or scrofula, in old age, in convalescence, its medicinal administration is beneficial, inasmuch as it facilitates the digestion of nitrogeneous foods. But it is inert unless accompanied with dilute hydrochloric acid. Solutions in glycerine will keep in alcohol but a short time ; therefore wines of pepsin which have been preserved a long time are liable to have but little efficacy.

Bismuth. The subcarbonate, subnitrate, salicylate, or subgallate are less appropriate in gastric catarrh than they are in other forms of subacute or chronic gastritis, and mainly in ulcer of the stomach. It is a gentle and antifermentative protection to the mucous membranes and its nerve branches. The gastric neuralgia of the anæmic, the hysteric, and the pregnant are favorably influenced by it. In the same way, besides binding hydrogen sulphide, which is a potent cause of peristalsis, it protects ulcerations of the intestines, prevents their reflex effect and relieves diarrhœa.

The merits of *nitrate of silver* have become dubious in regard to most of the claims advanced for it. It was expected to heal ulcerations and to relieve gastric pain. The main objection to its use was the fact that there is always so much sodium chloride in the stomach ; that is true, but when nitrate of silver is to be used, the amount of salt in the stomach need not be larger than the physiological condition of the gastric surface requires. Therefore whoever is to take nitrate of silver must not have before taken salt in his food, and ought to have a fairly empty stomach. In that condition the mucous membrane of the stomach is as amenable to the action of the nitrate as that of the pharynx or nose. It is desirable to have a similar method of administration, or rather application, in all of these cases. Pills will certainly not be so reliable as a solution, and the dilution ought to be large enough to render the distribution of the solution over a large extent of the stomach probable. An adult may take from one-half to one grain in four ounces a day, a tablespoonful every two, or two tablespoonfuls every four hours. The smallness of the doses is no objection. The greatest dilutions, 1 to 2,000 to 5,000 are known to find their way most readily into and between the epithelia. To influence a large part or the whole extent of the stomach interior, a few grains of nitrate of silver in a pint of water may be employed for irrigation.

Charcoal, I am told, is a very disappointing drug. I do not share that opinion. It is expected to bind gas, and so it does ; but this property is nearly lost when it is wet. Besides, the charcoal mostly in use with us is vegetable charcoal, while the animal preparation is known to absorb about thirty times as much as the former. I never prescribe anything but carbo-animalis. To have its full effect it ought to reach the stomach in its dry state if possible. That can in part be accomplished by giving the drug in wafers or in capsules.

Amara (bitters) are stimulants appropriate for atonic condition of the stomach, both primary and secondary, mostly in anæmia, chlorosis, and exhaustion by sexual excesses. The roots of gentian and calumba, the wood of quassia and of dandelion and Irish moss belong here. Their effect is but mild, their action by reflex on the secretion of saliva is known but not marked, that on the secretion of gastric juice is doubtful. Thus it is that they are often administered in tinctures which contain ethereal oils and alcohol, both of which are more active. The latter do not agree with acute gastric catarrh and ulceration. One of the best known, for good and evil, is cundurango. In America it began its career in 1871, in 1874 in Germany. I well remember the stir it made in the newspapers of the day. It was imported by a downtown firm from Ecuador and cured every case of cancer of the stomach. To return the compliment, the same firm exported large invoices of Scott's cancer remedy to cure the cancers of the stomachs of the people of Ecuador. Such is fraternity and solidarity. After a while, when the excitement was over, cundurango was found to be an excellent amarum. A decoction of 15 in 300, made after a maceration of twelve hours, so as to leave 150, acts quite favorably. So does the extract of cundurango, one or two grains of which may be administered five or ten times a day.

In the same direction are active other bitters and the aromatics, the mints, cardamom, caraway, cascarilla, mace, pimento, ginger, cinchona, pepper.

Most of us will prefer one, or very few, or none of the substances mentioned. When given in tinctures or in extracts, they may be combined with adjuvants and corrigents, in liquid or pill form, with quinia, iron, etc. Some of us are still fond of orexin, the indispensable cure-all, the effect of which has always appeared doubtful to me. The best of all the bitters is nux vomica ; its tincture, fluid extract, solid extract, and its alkaloid permit of many ways of administration and combination, with good effect.

Rhubarb in small doses has no cathartic effect, but through its gallic acid is rather constipating. In doses of from 2 ctgr. to 2 dcgr. several times a day it acts favorably in chronic gastric catarrh and nausea and vomiting depending thereon. In small doses it improves the appetite, particularly in scrofulous and rickety children, when feeble digestion, or dyspepsia follows an attack of diarrhœa. The aqueous tincture of rhubarb which has been received from the German Pharmacopœia into our "National Formulary" is a good preparation. Adults take one-half to one teaspoonful after meals. Our aromatic tincture of rhubarb is a good preparation when the stimulating effect of alcohol is required.

Motory incompetency may be the result of gradual decrease of muscular strength in anæmia, slow convalescence, etc., or depend on a congenital, either general or circumscribed, insufficiency, but is mostly the outcome of a protracted catarrh and dilatation. It is quite frequently combined with insufficient secretion of gas-juice. These are the cases in which orexin has been recommended. Amara and diluted alcohol, spices, aromatics, internal douching, external douching, both cold and hot, massage, electricity, both externally and internally, appear indicated. Pepsin and hydrochloric acid are required when the secretion is more defective than the contractility.

Lack of hydrochloric acid results from defective innervation, in anæmia and convalescence, or from local causes; atrophy of the glands, cicatrices, or tumor. The secretion of pepsin is defective at the same time. Both have to be supplied in the shape of medicine.

Excess of acid, however, is more frequent. Its over-

secretion may be due to chronic gastritis, ulceration, or neurosis. In some instances it is due to a chronic dyspepsia, depending on the abuse of tobacco or of alcohol, or both. With the exception of the cases of over-acidity from ulcer which yield a local pain, that excess is characterized by a more extensive pain than is attributable to a local lesion. Whatever excites the gastric secretion must be avoided. Instead of chloride or bicarbonate of sodium, of aromatics, of acids, give nitrate of silver 1 to 3,000 to 6,000, in tablespoonful doses, also some opium. If a purgative be required, give sulphate of sodium. Not infrequently the over-secretion of hydrochloric acid accompanying the first stage of a subacute gastric catarrh gives way, in the further stage, to under-secretion. In that case the treatment of the catarrh, including irrigations, is indicated.

The treatment of ulceration will be referred to later.

The neurotic cases require slow eating to avoid suddenness of secretion, more animal food but no fat, no carbonic acid, and the treatment of the neurosis of the stomach, which will be detailed later on.

In all cases antacids are indicated, such as prepared chalk, bismuth, or magnesia, but they are liable not to have the same favorable effect as when they are given when the secretion is not of hydrochloric but of butyric acid, which is the principal and most objectionable result of undue fermentation. The presence of this acid is an obstacle to digestion and ought to be neutralized before food is taken. Magnesia must be given ten minutes before a meal in sufficient doses. Quite often the presence of this acid accompanies a chronic catarrh with insufficient gastric juice. Thus I frequently, after giving the antacid before every meal, administer pepsin and dilute hydrochloric acid toward the end of, or after it.

Round ulcer of the stomach requires, theoretically speaking, absolute rest of the stomach until the ulceration can heal. That indication cannot be filled. But the only food endured and permissible is milk, not to be drank, but eaten with a teaspoon. It ought to be boiled or sterilized, and the stomach kept alkaline. Magnesia can be taken in daily doses of two or three grammes for some time without giving rise to diarrhœa. If larger doses of alkali than the above be required, and diarrhœa be feared, bismuth may be added from two to four grammes a day, or prepared chalk, or phosphate of lime. It is desirable to take no carbonate, not even the sodium salt, in order not to inflate the stomach. The total daily amount must be given in eight or ten doses. They may be so arranged as to precede by a few minutes the meals, which ought to be small but frequent. Opiates will enforce rest, and are, in the beginning of the treatment, in doses of from 10 to 15 milligr. every two or four hours, almost indispensable. Irrigation ought to be avoided as a rule. I have many years ago irrigated with a high dilution of nitrate of silver. Bismuth subnitrate has been thus used, but instruments are dangerous inside an ulcerated stomach, and bismuth taken internally will probably cover the sore surface as well as if thrown in when suspended in water.

The vomiting and neuralgia of neurotic persons are frequently the despair of the physician. They are as curable and incurable as other symptoms of hysteria. By attending to the person you may conquer the organ. So the medicinal and hygienic armamentarium will be in pressing demand. Opiates ought to be avoided if barely possible. Cocaine has been recommended very highly; I cannot say that I have seen it doing much good. It has been customary to employ cerium oxalate, mainly, in the vomiting of pregnancy; nitrate of silver has failed me entirely in these cases. Three remedies have often aided me. One is the tincture of iodine, in half to one drop doses every one, two, or three hours, the other is arsenious acid, in doses of one-third or one-fifth of a milligramme every two or three hours, and zinc, either the valerianate from seventy-five to one hundred and twenty-five centigrammes daily in divided doses, with or without bismuth, or the oxide in four or six daily doses of from two to five centigrammes each. Menthol and alcohol, (1 to 10) applications to the præcordia have sometimes proved successful. In the vomiting of pregnacy, wine of ipecac, one drop every hour, has given satisfaction. One of the symptoms of stomach neurosis is rumination, regurgitation of part of the food taken. Though the symptom be by no means rare, I do not remember a case, in adult or children, but exhibited quite an array of neurotic symptoms. Thus general tonics, seabathing, cold ablutions and frictions, strychnia, zinc, ferri carbonas, are the remedies required. Electricity —the interrupted current—will sometimes prove effective, one electrode over the neck, the other over the epigastrium. Often the metal brush, short applications, works better than the wet sponge.

There are other cases of vomiting having their origin in distant parts. Chronic peritonitis with adhesions, will result in obstinate constipation. Now constipation, from whatever cause, is liable to give rise to obstinate vomiting, extending over many weeks, even months. I have seen them getting relieved by purgatives and rectal irrigations. Qui bene purgat bene curat.

When vomiting attends acute gastric catarrh, and is so persistent as to render both feeding and medication impossible, calomel, given in sufficient doses, will be absorbed in the mouth, and have its full effect as a purgative. Now and then leeches, ice, hot fomentations, dry cupping, may relieve the gastric congestion or irritability. When food is thrown up after being taken, a small dose of morphia on the tongue, in solution or in tablet form, five or ten minutes before eating, will make it endurable. In this way even anæmic vomiting can be moderated.

In cases of protracted fermentation in the stomach, attention must be paid to the foods and other ingesta, among the latter to the swallowed secretion of the nose and pharynx. Many a case of putrid dyspepsia can be effectually cured in the nose and mouth. Irrigation of the stomach with water, salt water, salicylic acid 1 to 1,000, thymol 1 to 2 to 3,000, or hypermanganate of potassium 1 to 2,000 will find their indications. But they cannot be employed forever, and in most cases the powers of the stomach will not be restored by them. Among the anti-fermentatives I mostly use, is dilute hydrochloric acid. Thirty or forty drops in a quart of water, will form an appropriate drink through twenty-four hours. Bismuth and its phenol combinations act very well, but not by themselves alone. Creosote in daily doses of from eight to twenty-five drops, creolin in similar doses, plentifully diluted, act very well. So does hypermanganate of potassium, 1 to 2,000, in frequent teaspoon or half tablespoonful doses. Resorcin, from seventy-five to one hundred and fifty centigrammes a day, divided into four or six doses, one to be given fifteen minutes after meals, and now and then between, mixed or not with bismuth; bicarbonate of sodium, acts very well. Calomel acts better on the intestine than on the stomach. Chlorine, iodoform, and naphthaline have been given for the disinfection of the stomach. But stomachs which require disinfection are generally too irritated and irritable to tolerate just these three. Aromatics may be given. The elæosaccharа of fennel and mint have been added to the "National Formulary." They are pleasant and efficient additions to bismuth, calomel, etc., in children's ailments.

Hemorrhage.—No sounding, no irrigation. Seldom will the stomach as much as tolerate chloride of iron or acetate of lead. Besides, in the doses which can possibly be introduced, they do as little good in hemorrhages from the surface of the stomach as from another integument. Avoid the internal use of alcohol or carbonated waters; avoid even water. Ice inter-

nally may do good by contracting the stomach; its direct influence on the bleeding vessels can be but trifling. Ergot preparations may be employed under the skin. It is desirable to keep the stomach contracted by a heavy ice-bag, which acts both by its weight and its temperature. The body must be kept at rest, recumbent; if any food be permitted, that will be iced milk in small quantities. Bismuth subnitrate is probably the only thing which is both tolerated and useful. Rest can be procured both to mind and circulation through the hypodermic use of morphia.

Cancer of the stomach, both near the pylorus and on the wall of the organ, has more indications than successes. We shall hear to-night of what surgery feels like doing, and in quite a number of instances has succeeded in doing, for cases the nature of which could be exactly diagnosticated by the presence of a perceptible tumor, by decrease of strength and weight, scantiness of urine, etc. May be we shall even be told that ulceration and severe hemorrhages demand and permit surgical interference. Before that, however, there will be other indications. Loss of appetite may be benefited by bitters, nux, calumba, and, best of all, cundurango. Anæmia requires mild preparations of iron; constipation, a vegetable purgative, but no saline; pain, morphia internally or subcutaneously, but no chloral hydrate, which must be avoided in all conditions of irritability; eructation, charcoal or creosote; vomiting, morphia, creosote, hydrochloric acid.

Can we do more than simply treat the secondary symptoms? To a certain extent we can. A hundred cases of carcinoma which have come under my observation within these five years convince me of the efficiency of methylene blue. There are but very few patients but, if we commence giving small doses, say one to two grains daily, tolerate it well, and very few but are relieved and improved by it. I am not the only observer who has seen large tumors in any part of the body reduced in size by it, and smaller ones rendered almost imperceptible. If we cannot preserve life to threescore and ten, we can prolong it.

DISEASES AND DISORDERS OF THE STOMACH—MODERN SURGICAL TREATMENT.

By FREDERICK KAMMERER, M.D.,

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But fifteen years ago surgical interference with the stomach was considered a most hazardous procedure, and was undertaken only in very exceptional instances. Since then, however, a great many indications have been found for operations on that organ, and it can only be regretted that the results of the latter have not, on the whole, been as encouraging as the indications have been many.

It seems natural that simple incision of the stomach for the removal of foreign bodies should have been the earliest of these. Quite a number of such cases are on record which have been done before the days of antiseptic surgery, with an astonishingly slight mortality. There is, therefore, no reason why the operation should not be practised to-day, when the shape and size of the foreign body are such that it cannot in all probability pass into the duodenum, and will cause irritation if it remains within the stomach itself. A clean incision, followed after extraction by a careful suture, ought to have practically no mortality.

The operation of incising the stomach, gastrotomy, has of late years been practised for other conditions than the one just mentioned. Several cases are on record in which the stomach has been opened for ulceration and consecutive hemorrhage, and I know of two cases in which this procedure has proved very successful. The one is reported by Küster—a woman, twenty-one years of age, who was very anæmic from repeated hemorrhages, and in whom the surgeon succeeded in effecting a cure by thorough cauterization of the ulcerated surface after incision of the stomach. The second is a case of Mikulicz, which to my knowledge has not as yet been published, also a young woman, in whom the bleeding point was found on the posterior wall of the stomach, the ulcer excised by cutting through the entire thickness of the stomach-wall, and the operation terminated by an exact suture at the point of excision from within and the line of incision from without. In this last case quite a large opening had to be made into the stomach to find the ulcer, increasing the risks of the operation. The patient, nevertheless, made an excellent recovery, to which I take pleasure in testifying, having examined her several weeks after operation. In a few other cases large ulcers have been excised with success, but not for hemorrhage. It should be stated, however, that death has also followed this measure of relief in several instances, and I fear that such will be the result in many more where grave operations are undertaken on exsanguinated patients. Gastrotomy for hemorrhage will always find a very limited application, for the reason that it will be difficult to determine the moment at which, without operative interference, a fatal termination would ensue.

Gastrotomy has been furthermore recommended by Loreta as a preliminary measure to divulsion in non-malignant stenosis of the pylorus, and has been employed in this way by many operators with good results. For this purpose an incision is made into the stomach nearer the pylorus than the cardia, and after introduction of both index-fingers into the pylorus, the latter is stretched with uniform but considerable force. The incisions in the stomach and the abdominal walls are then closed. The immediate result of this procedure has generally been excellent when the patient survives. The vomiting and gastric irritation have ceased and the patients have gained largely in weight, as a result of the unimpeded passage of food from the stomach. But certain accidents which have occurred during its performance, notably rupture of the pylorus with consecutive peritonitis and also hemorrhage, have caused it to be superseded by a plastic operation which has none of these disadvantages, but one further advantage, that it prevents a recurrence. It is not probable, judging from our experience with divulsion in other parts of the body, that a single stretching will be followed by a permanent disappearance of the contraction. And the ultimate results of Loreta's operation do not give support to such an assumption, Loreta himself having published three recurrences.

Pyloroplasty is based on an entirely different principle, that of leaving the stenosed portion of the pyloric ring intact and adding to its circumference by a very simple plastic operation. A longitudinal incision through the entire contracted portion of the pylorus is united in a transverse direction, as a result of which the line of suture now lies at right angles to the original incision into the pylorus, increasing by its entire length the circumference of the latter. This operation is the one which should be done by preference for the relief of non-malignant stenosis of the pylorus.

Very interesting comparative statistics have lately been published by Mintz on this subject. He has collected 22 cases of Loreta's operation, with 13 recoveries, *i.e.*, fifty-nine per cent.; whereas 29 cases of pyloroplasty, according to Heinicke-Mikulicz, are mentioned with 22 recoveries, *i.e.*, 82.7 per cent. If stenosis is complicated by ulceration, pyloroplasty is not indicated. We should then run the risks of a recurrence during further cicatrization of the ulcer. Gastro-enterostomy should be resorted to under these conditions, which, according to Mintz, gives a percentage of 71.9 of recoveries. Pylorectomy should never be done for non-malignant stricture.

For simple dilatation of the stomach, unaccompanied

by organic lesions at the pylorus, tucks have been made in a longitudinal and also transverse direction in the wall of the stomach, and fastened by sutures passing through the serous and muscular coats. The operation has been done with some benefit in consequence of the diminution in the capacity of the organ, but the same has generally not been permanent.

Very little encouragement can be gathered from the results of operative interference for perforating ulcers of the stomach. I have found only one case of recovery after this operation, and have myself lost a case some weeks ago, a man of about fifty, whom I saw on the fifth day with advanced general peritonitis. Although the patient gave a history of sudden acute pain in the epigastrium on lifting a heavy load, I was inclined, from his appearance, to diagnose an appendicitis, more especially as I could elicit only a very indefinite history of previous gastric disturbance. I made the usual incision at the outer border of the rectus, bringing to view a normal appendix. On continuing my incision upward the sudden appearance of undigested particles of food left no doubt as to the nature of the lesion. A perforation of about the size of a pea was found on the anterior wall of the stomach and closed with silk sutures. The entire abdominal cavity was irrigated with many gallons of hot sterilized water. The patient rallied somewhat, but died next morning. At the post-mortem examination a second perforation, much larger than the anterior one, was found on the posterior wall of the stomach.

The cases which most frequently come under the care of the surgeon are those of cancer, unfortunately only when unmistakable symptoms of pyloric stenosis have already developed, and when the tumor has already attained considerable size. Two operations have been adopted as justifiable ones for the relief of this affection: pylorectomy and gastro-enterostomy. Both of them have undergone many modifications since they were first presented to the profession. In pylorectomy, Billroth, whose experience has been larger than that of any other surgeon, always united the cut edges of the stomach and duodenum, after partially closing the opening in the former, with a view to making the two apertures of equal size. His mortality with this operation was very great, over fifty per cent., which he attributes mainly to faulty technique in suturing. Owing to the difficulty of uniting two intestinal openings of unequal size, it has been proposed, more especially by Bull in this country, to close the stomach and duodenum and to do a gastro-enterostomy. It has been further proposed to close the stomach and to implant the duodenum into a fresh incision on its anterior, or, preferably, its posterior wall, and not long ago the very ingenious device known as Murphy's button has been called into requisition to accomplish this object. There can be little doubt that the implantation of the duodenum into the posterior wall of the stomach is the most rational manner of reestablishing the continuity of the intestinal canal. If, however, owing to extended resection, an approximation is impossible, gastro-enterostomy should be resorted to, after closing the divided ends of the viscera.

When the surgeon, after opening the abdomen, finds the removal of the neoplasm inadvisable, what course should he pursue? If his patient is generally in a fair condition and symptoms of pyloric stenosis are well developed, then the case is one for some form of gastro-enterostomy. But I do not hesitate to say that the surgeon should again close the abdomen and desist from the temptation of further operative interference when the symptoms just mentioned are absent or present only in a slight degree. I believe that far advanced cases, where cachexia is well marked, do not stand gastro-enterostomy well. When the retro-peritoneal glands are involved, and also other abdominal organs, such as the colon and liver, it is better to run the chance of the stenosis not becoming apparent before the patient has lived through the short remainder of his life, than to subject him to an operation which in his condition is critical. When the stenosis has been well marked before laparotomy, however, there will be no alternative but to do gastro-enterostomy, although the prognosis is, if anything, worse. I have myself lost three cases on from the third to the fifth day, in which a most careful post-mortem examination has failed to detect the slightest sign of leakage along the line of suture, or any traces of peritoneal infection. In two of them persistent vomiting set in immediately upon their recovery from narcosis, and lasted, despite all our efforts, until death. (I should like to mention in this connection that Hahn has lately recommended washing of the stomach in such cases, as early as twelve hours after operation. He claims that this manipulation is without danger and that the vomiting will generally cease.) In the third, vomiting incident to narcosis ceased after a short time, but the patient died apparently of exhaustion. All these patients were very cachectic and anæmic, with well-marked stenosis. I cannot attribute their death to shock following operation, for they all rallied well from the effects of the latter, and were, in fact, in about a like condition at the close as at the beginning of the same. In two of them, some difficulty was experienced in bringing the loop of intestine to a suitable position on the anterior wall of the stomach, owing to cancerous infiltration of the latter, and some tension was present after completion of the anastomosis. This may have been sufficient, combined with the occasional discharge of bile and pancreatic juice into the stomach, to account for the persistent vomiting, which in patients of so low a grade of vitality may produce profound collapse and death. I do not, therefore, believe that cases of pronounced cachexia are favorable for this operation. Regarding the technique of the latter, I have but little to say. I have always attached the loop of jejunum to the anterior wall of the stomach, bringing it over the transverse colon, the original operation of Wölffler. Some surgeons have observed intestinal colic and obstinate constipation after this method, and attribute the same to pressure of the loop upon the colon. It has, therefore, been suggested to pass the loop through a slit in the mesocolon, behind the transverse colon, and to attach it to the posterior wall of the stomach. The latter procedure is more difficult and has not been generally accepted, although special conditions, as infiltration of the anterior wall of the stomach, may necessitate its employment. I have used Senn's plates, Abbe's rings, and the simple suture with silk, and prefer the latter. One of the first requisites of speedy union is uniform approximation of the peritoneal surfaces which are to become adherent, and to this object catgut rings, in my experience, do not so readily lend themselves. Senn's plates cannot be procured of sufficient size for a large opening between the two viscera, and such an opening is very essential to counteract the effect of contraction at the anastomosis. The best plan is, I believe, to make incisions, three or four inches long, and to suture, using a double row of peritoneal sutures on the posterior side, at least. I should not employ Murphy's button in gastro-enterostomy, as it has always seemed to me that it might ultimately slip into the wider cavity, the stomach, with the same facility as into the small intestine, and a report of three such occurrences at a recent meeting of the New York Surgical Society has corroborated this opinion. Moreover, I do not regard the matter of saving fifteen minutes' time as one of any importance in gastro-enterostomy, although in some forms of intestinal obstruction a loss of fifteen minutes may prove fatal.

Progress in the treatment of cancer of the stomach, will be made in the direction of pylorectomy. The conviction that early and very radical removal of cancerous tumors will vastly improve the results of operative interference, has been much strengthened lately

by the excellent work of Halsted on cancer of the breast. In the subject under discussion to-night the difficulty lies in early diagnosis. We have heard how these difficulties may to a large extent be overcome. But still, occasionally, a case may baffle the diagnostic skill of the most expert. All who have experience in this kind of work will agree with me, that careful examination, with or without narcosis, has often failed in detecting a tumor of considerable size, which laparotomy has readily revealed. If anywhere, an exploratory incision is certainly indicated here. Palpation of the upper abdomen does not yield results which are at all as reliable as those gained by simple or bimanual examination of the pelvis, where some have learned to feel even a normal appendix. If we, furthermore, remember that in about one-third of all the cases of cancer of the stomach, which have been examined post mortem, no metastatic deposits and no adhesions were found, we should expect to meet with very favorable conditions for pylorectomy, when early exploratory incision is practised. But popular prejudice, which, here as elsewhere, must be overcome to attain the most gratifying results, will only yield to the united efforts of both physician and surgeon.

THE USE OF VASO-CONSTRICTORS IN CARDIAC DISEASE.[1]

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THE literature of the use of the vaso-dilators in cardiac disease is extensive; their exhibition is now widespread and productive of good results. Since the observations of Brunton in 1867 have been published, numerous clinicians have recorded the results of the administration of amyl nitrite, nitro-glycerin, and sodium nitrite, until to-day the use of the nitrites rests upon a secure foundation. The advantages of the use of the vaso-constrictors has not been so thoroughly before the profession. That they are useful, independent of any purpose of checking or of warding off hemorrhage, all admit.

That they are useful in a considerable proportion of cases of cardiac disease, I am, from eight years' clinical study of their effect, firmly convinced. The cases in which we may expect that they will demonstrate their greatest usefulness must be sharply defined. Evidently, in patients in whom the cardiac disease is secondary to diseases of the arteries, either endarteritis proliferans, periarteritis, calcareous degeneration of the intima, we will not find the vaso-constrictors indicated. This limitation also applies to Oertel's Terrain Kur, as has been well pointed out by Hayem. In an under-compensated heart, irrespective of whatever valvular lesion may exist, we can, by use of these remedies, exactly regulate the amount of work which the heart is made to perform. Obviously, by narrowing the calibre of the peripheral systemic arteries and the arterioles, we may increase the obstacle to the flow of blood and thus to a nicety regulate the work which the left ventricle is called upon to do. By thus regulating the work of the left ventricle we may set up hypertrophy of the muscular tissue in its walls, and in this way bring about compensation; not only does the increased blood-pressure result in more blood being sent into the coronary arteries, the nutrient arteries of the heart, but more efficient cardiac contractions produce a more rapid circulation of blood in the cardiac muscles, thus improving its nutrition. The same principle, that of regulating the work of the heart, is that involved in the Oertel cure of relatively weak hearts. We believe that the method of treatment by means of the vaso-constrictors to be the preferable one because it is absolutely under the control of the physician. Digitalis undoubtedly is the most generally useful of all of the drugs which are employed for the relief of cardiac disease, but only when it is properly used. Employed as it frequently is, without regard to the pathological circulatory conditions, it quite as often does injury to the patient as it affords relief. If one were asked in what circulatory condition digitalis finds its most useful indication, it can be safely said, as Fothergill long ago pointed out, that it is when the pulse is rapid, broad, and of low tension. It is here that passive congestions are most frequently found. It is in these cases that hemorrhages so often occur. Digitalis is useful because it is a vaso-constrictor of no mean value, and because in slowing the heart the organ acts at a better mechanical advantage, the diastolic period is longer, the heart-rest is increased in length, the systoles are more perfect. Clinically we see the anasarca diminish, the urine becomes more copious and of lower specific gravity as the renal congestion disappears, the cough, cyanosis, and dyspnœa are relieved as the pulmonary congestion diminishes, the dyspeptic symptoms are relieved as the portal system becomes unloaded of venous blood. The pulse-rate is slowed partly because of increased resistance, in the same way that a frog's muscle contracts more slowly as its load is increased, and partly because of the action of digitalis upon the cardiac peripheral end of the vagus. In this very vaso-constrictor action of digitalis we have a great source of danger—the danger of so increasing the work of the heart, so increasing the obstacle to outflow of blood from it—that the cardiac muscle will be unable to overcome the resistance and dilatation will supervene, and the slow pulse of full tension will become the rapid, and in the earlier stages of overdosing hard, in the later stages unfilled arteries. The disadvantages of digitalis, so far as its vaso-constrictor action is concerned, lie in the slow establishment of this condition, its persistent duration, and that it is not so amenable to the antagonists, the vaso-dilators.

Many years ago it occurred to me that if it were possible to separate the vaso-motor properties of drugs used for the treatment of cardiac diseases from their physiological action upon the pneumogastric, a decided gain for practical medication would be acquired. In selecting a remedy to control the calibre of the arteries considerable difficulty was encountered, for of the drugs which have vaso-constrictor properties, some, as for example, squill and convallaria when they have any effect, possess action similar to digitalis. Others, as belladonna, hyoscyamus, and stramonium stimulate the vaso-motor centre, their power being in the order named, but they also increase the heart's action. The influence of opium (small dose), of quinine, ether, and alcohol in this direction is hardly marked enough to warrant exclusive reliance upon these agents when used for the special purpose of vaso-constrictors. Nux vomica certainly stimulates the vaso-motor centre, but, as Delezenne has recently pointed out, it is undoubtedly an energetic dilator of the peripheral vascular plexus, although it has a vaso-constrictor effect upon the larger arterioles.

We are left, then, with five drugs from which we may choose our vaso-constrictor. Barium, lead, and silver are reported to be general vaso-constrictors; the first only has a decided action. Barium, especially the dioxide, acts as does ergot, directly upon the muscular tissue of the vessels, but its action is not so marked, is longer in duration, and is not so certain. Hydrastis is a vaso-constrictor of no mean value, but is chiefly useful in the congestions and hemorrhages of the uterus and adnexæ.[1]

To ergot, then, must we look for a general vaso-constrictor. The preponderance of the evidence obtained

[1] Read before the Section of General Medicine of the New York Academy of Medicine, December 18, 1894.

[1] See Wilcox, New York Medical Journal, 1887, vol. xlv., p. 199.

from experimental work is that ergot causes contraction of involuntary muscular fibre whenever found in the body; therefore we have constriction of the muscular walls of the arterioles. It also lowers the pulse-rate; this is partly due, as has been above stated, to the increased peripheral resistance. If administered hypodermatically its vaso-motor effects may be seen within a few minutes, these effects lasting for several hours, according to the activity and strength of the preparation and its method of administration. At all times the vaso-constriction is readily done away with by the administration of the vaso-dilators, the nitrites.

The mode of employment in the cases of cardiac disease marked by a pulse of low tension and passive congestion, has been to diminish the calibre of the arterioles by ergot, slowing the heart, if rapid, by strophanthus or sparteine, which have but slight action as vaso-constrictors, the last almost none at all. If the pulse is already slow the heart can be stimulated by caffeine, or preferably, by cactus, the last being inert unless made from the green plant. In these cases I have found, after years of clinical observation, that the process of bringing about compensation in relatively weak hearts was more easily accomplished and in shorter time, and by far more safely than by digitalis. About three years ago my attention was called to a series of papers by Hemmeter upon the physiological effects of ergot and its clinical applications, by far the most scholarly and practical study which I have ever read. In these papers was mentioned a liquid ergotin named by its manufacturers, Sharp & Dohme, "ergotole." It was stated that it was unchangeable, unirritating, so that it could be used hypodermatically, and that it was probably the most concentrated liquid preparation of ergot that can be obtained. In my clinical studies during the past three years I have made use of this preparation, and I can substantiate the statements made by Hemmeter. For other purposes for which ergot is employed but which do not come within the scope of this paper, I have found it equally useful. To keep the arterial tension so that the peripheral resistance shall be just within the power of the cardiac contractions, the dose must be proportioned to the strength of the heart. If the passive congestion (venous) is considerable, the renal congestion marked, dyspnœa, cyanosis, and pulmonary œdema urgent, five to twenty minims of "ergotole" hypodermatically, with one-half to two grains of sparteine sulphate, also hypodermatically, will often relieve as if by magic. If the case is one of under-compensation, the oral administration of from five to thirty minims in water, with which it makes a perfectly clear mixture, three times daily, will be required. For direct action upon the heart, strophanthus or sparteine, caffeine or cactus, will be needed, the dose to be carefully determined for each individual case. In this way I have succeeded in obtaining and maintaining compensation in a large number of cases of failing heart, in both hospital and private practice.

Conclusions.—1. For the relief of passive congestion and to establish compensation, the pulse being of low tension, the calibre of the blood-vessels should be contracted by vaso-constrictors, of which the most reliable is "ergotole." 2. For the regulating of the rate of cardiac contraction drugs which have little or no effect upon the size of the blood-vessels should be used—strophanthus or sparteine, caffeine or cactus.

The Strange Epidemic of Insanity which prompts its subjects to stab strangers, usually women, in the streets, has prevailed in London, and naturally makes ladies going about alone somewhat nervous.

A New Hæmostatic called ferripyrin has been discovered by a German apothecary, Wilkousky. It is an orange-colored powder composed of chloride of iron and antipyrin, slightly soluble in water.

Clinical Department.

A CASE OF ACUTE YELLOW ATROPHY OF THE LIVER.

By C. E. V. KENNON, M.D.,

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On August 3, 1893, I was called to see a young woman, unmarried, aged twenty-nine, previously well, who had a marked jaundice of several days' duration. For over two weeks the case was treated as simple catarrhal jaundice. During this time the temperature was normal and pulse 72, not the slow pulse that is often found with jaundice. The urine was examined twice, and beyond the discoloration from bile showed a slight trace of albumin only. The area of hepatic dulness was enlarged, there was some headache, a good deal of lassitude, some vomiting, clay-colored dejections, etc., and, in short, the case went on like the ordinary catarrhal jaundice, up to August 19th.

On the morning of the 19th I was called out early to see the patient. She had suddenly developed violent cerebral symptoms — screaming, running about the house, and struggling when attempts were made to hold her on the bed, and then had gone into convulsions. When I arrived her convulsions and delirium were over, and she was lying quietly in bed. Her pulse was 130; temperature normal. She was rather dull in replying to questions, but gave rational answers. During the day convulsions and delirium alternated with partial coma. In the evening the pulse was 88; temperature normal.

The next morning, the 20th, the pulse was again 130; temperature, 99.5° F.; coma profound, continuing so from this time on, the violent cerebral symptoms having subsided completely. The mother told me that the patient had "come around," though she had been unwell only two or three weeks before. I found a dark, bloody discharge from the vagina, but not profuse.

After the onset of severe symptoms I told the mother that the girl could not recover, and at the request of the family asked Dr. Bowen to see the case. He suggested, though with little expectation of benefit, that strong cathartics be given, and good doses of jalap and cream of tartar were given, producing frequent watery evacuations, without other result. At 11 P.M. the pulse was 150; temperature, 101° F.; respiration harsh and rapid. Dark bloody mucus and saliva were dribbling from the open mouth. The jaundice was intense. The lower border of hepatic dulness was a couple of finger-breadths higher than at the last previous examination (several days before). Whether this was due to displacement of the colon or actual shrinkage of the liver, I cannot say. The whole area of dulness was now about normal. I could make out no increase of splenic dulness.

On the morning of the 21st the pulse was 154; temperature, 99.5° F.; respiration, 32, loud and harsh; and a dark bloody ooze from mouth and genitals. Death occurred at about 11 A.M., a little over two days after the "explosion," or second stage, began.

The history of this case, the first stage exactly like simple jaundice, the sudden onset of the second stage, the cerebral symptoms, behavior of the pulse, temperature, respiration, hemorrhages, etc., and rapidly fatal termination, age and sex of patient, all correspond to the clinical history of acute yellow atrophy of the liver, as described in the text-books. Although it is quite rare, the symptoms characteristic were so marked that such seems the only logical diagnosis. No urine was obtained in the second stage, so no examination was made for leucine and tyrosine, nor for the amount of urea present, and in the first stage they were not thought of. There is the so-called "pernicious jaun-

dice," with symptoms very similar; but that occurs, as a rule, after long-continued jaundice, where it is secondary to some chronic obstruction, as cancer, gall-stone, or some hepatic disease.

There was no autopsy to confirm the diagnosis. The undertaker was ready with a diagnosis of his own, and acted promptly. He told the family that the disease was yellow fever, and the body must be buried as soon as possible. My assurance that there was no danger could not overcome the scare of the relatives, and the body was buried, I believe, in less than twenty-four hours after death, and it was then too late for an autopsy.

October 31, 1894.

ACUTE GONORRHŒAL VULVO-VAGINITIS AND URETHRITIS IN AN INFANT AT BIRTH.

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THIS case is reported because it is not often that we can so distinctly demonstrate by the etiology the physical and subjective symptoms, and by microscopic aid the presence of a gonorrhœic process in an infant from the time of its birth.

This little patient was first seen on October 15, 1894, in Dr. L. Fischer's Clinic for Children's Diseases, at the Post-Graduate Hospital. There was a history of a scant passage of urine since its birth, which event took place three weeks previously; the little urine that was passed was discharged guttatim. On local examination of the genitals, nothing could be seen except possibly a slight reddening; there was no sign of any local discharge. A probe introduced into the urethra encountered no obstruction. On percussing the bladder no fulness could be detected. The child seemed bright enough, and its face depicted no sign of pain. No positive diagnosis was possible.

The babe was again seen on October 22d. On local examination quite a different picture was presented. The mucous membranes of the labia majora, nymphæ, vestibule, and anterior portion of the hymen were reddened and engorged, and so tender and painful that the child screamed when the parts were touched; there was a thick, creamy, muco-purulent discharge present; there were excoriations about the perineum. More urine was now voided than formerly, but the quantity was still very small.

Upon questioning the mother, she admitted that she had been under treatment for a long time for a vaginal discharge similar to that from which the child was now suffering. As the child slept with the mother, this showed positively that there was a direct transmission of the gonorrhœa from mother to child, a history of as direct an infection as could ever be obtained.

These local and general symptoms with the etiology gave conclusive evidence of what we had to deal with, and there was only need of the supplementary aid of the microscopic examination of a little of the discharge, to demonstrate the presence of the gonococci. For microscopic examination a little of the discharge was dried on a cover-glass, and stained with methylene-blue. The gonococci were found in large numbers, both separately and in the pus-cells themselves. The microscopic specimen was examined by all the doctors in the Children's Class of the Post-Graduate Hospital, and all commented upon the clearness with which the gonococci were seen, and also upon their great number.

The treatment consisted in rest to the parts, cleanliness, antisepsis, and the use of an astringent—briefly, in local bathing and syringing with a warm sublimate solution (1 to 10,000); Beta naphthol bismuth powder was well dusted upon the inflamed parts; then boracic acid lint was placed between the vulva to absorb the discharge; the diaper answered the good purpose of an occlusion bandage. No other treatment was necessary.

Under this treatment improvement set in rapidly, and within a short time the child was entirely well.

A CASE OF TONSILLITIS, WITH ERYTHEMA.

BY ROBERT BOYD, M.D.,

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ON March 13, 1894, Alfred E——, twenty-four years of age, occupation sailor, reported at sick-call, complaining of a "sore throat," which he had first noticed when he got up in the morning.

On examination of his throat, his tonsils were found to be very much enlarged and congested, touching each other and to a great extent filling up the fauces. Their surfaces were covered with a grumous, tenacious mucus, and the follicles were prominent and unhealthy-looking. The patient also complained of difficult and painful deglutition. Temperature, A.M., 101.2° F; pulse, 108; respiration, 20. Bowels constipated and tongue heavily coated.

The patient was admitted to the sick list and placed upon phenacetin, grains 15, and quinine, grains 10, *t.i.d.* An antiseptic spray was directed to the parts three times daily. Fluid diet, mostly consisting of milk and beef-tea.

Examination of the urine showed a small amount of albumin, which can be accounted for by the fever; it is scanty and high colored. Reaction acid and no casts. Treatment was continued and flaxseed poultices applied to neck during the day. Pulv. ipecacuanhæ et opii, grains 10 at night.

On March 15th, an erythematous eruption developed on the arms, legs, and back, very much resembling the eruption of scarlet fever. On questioning the patient, he stated that a week ago he had held a sick child in his arms, at a friend's house. The mother told him that the child had "measles." As will be seen, the eruption appeared seven days after a possible exposure, and the usual period of incubation of scarlet fever is stated to be about seven days. We can only take the mother's statement that the child had "measles," or some erythematous disease, for what it is worth.

The throat being somewhat characteristic, and the presence of the eruption in connection with the history of the case, I strongly suspected scarlatina. The tonsils at this time, having somewhat softened, I incised them, with strict attention to asepsis, evacuated considerable pus, and painted the surfaces with a three per cent. solution of carbolic acid.

Patient slept well during the night and was much improved the next day. Tonsils looked healthier, were less congested, and there was but slight pain in the throat. The erythema persisted. Temperature, A.M., 101°; P.M., 102° F.; pulse, 100. Antipyretics were discontinued, in order to determine whether or not they have caused the erythema.

On the following day the patient was much improved. Temperature, A.M., 101.4°; P.M., 102.2° F.; pulse, 106. The erythema had extended to the hands and feet. The patient complained of pain in the wrists and in the finger-joints. There was slight swelling of these parts. There was no history of any attacks of rheumatism. There was a steady improvement up to the 21st of March, 1894, when the temperature and pulse became normal.

On March 24, 1894, the patient's term of enlistment in the naval service having expired, he was discharged from the sick list, at his own request, apparently cured. The erythema was still present, but less intense.

The patient was not seen again for a period of three

weeks, when he returned to re-enlist. At this time he was feeling strong and well. The erythema had entirely disappeared.

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"DIRECT TRITURATION" IN RIPENING IMMATURE CATARACTS.

By W. C. PIPINO, M.D.,

des moines, ia.

In view of the fact that some of our high authorities have expressed themselves unfavorably in regard to ripening immature cataracts, regarding the process as dangerous and not to be performed, I feel that any additional experience in this field, though it emanates from a source not so distinguished, is worthy of attention and consideration.

The method most frequently mentioned in the textbooks for artificially ripening cataracts is Förster's. The chief objection to it is the mutilation of the iris by an iridectomy and possible injury to the cornea from attrition. By direct trituration, the method devised and introduced by Boern Bettman, these objections are overcome, and when performed by skilful hands the method is the acme of perfection. The careful reading of Dr. Bettman's paper on "Ripening of Immature Cataracts by Direct Trituration" impressed me favorably, and I determined to give it a trial when an opportunity presented.

I have now performed the operation seven times, and in no instance have I had occasion to regret it. I am confident that each individual whose lens I have thus ripened would be still groping around in semi-darkness, had I refrained from interfering with the slow process of nature, and instead, given the advice I have in the past, to "wait until the cataracts are ripe before an operation can be done."

Noyes tells us "the process of sclerosis goes on for ten or more years." This is true, and it is in this class of cases that the operation is designed to hasten maturation and restore to the individual useful vision by an early operation.

One of the chief objections urged against direct trituration is rupture of the suspensory ligament and dislocation of the lens. Dr. Bettman, in his paper published in the *Journal of the American Medical Association*, November 4, 1893, in reply to this criticism says: "I can only reiterate that careful and skilful manipulation of the spatula in my hands has never been followed by any untoward symptoms; seemingly the most probable misadventure would be tearing of the suspensory ligament and dislocation of the lens."

The first time I performed the operation I succeeded in doing the worst thing that could possibly happen —I ruptured the suspensory ligament. However, this did not prevent a good recovery with useful vision by a subsequent operation. This accident, occasioned by my awkwardness, did not deter me from resorting to the method in other cases. I discovered by this experience that the amount of pressure to be used in triturating a lens is to be acquired by experience only. I exerted too much pressure on the lens, which I avoided in my other cases. I now employ just sufficient pressure to break down the lens structure. It is surprising what little pressure will cause an immature lens to become wholly opaque. In twenty-four hours you can see the change, and in the majority of cases it is opaque at the end of the first week. The cases in which I triturated the lenses, the individuals could see barely enough to get around and avoid coming in contact with objects, and not sufficient vision to follow any employment, read, or sew. One case of an old gentleman, in particular, who had been groping his way about for several years, was told by several professional gentlemen whom he consulted before coming to me, that he must wait, as nothing could be done until his cataracts were ripe. In each eye there was a small opaque nucleus around which the fundus could plainly be seen.

The operation of ripening the lens artificially being fully explained to him, he readily submitted, and in four weeks from the date of trituration simple extracting was performed, followed by good vision. My experience is limited to five cases and seven eyes. Some of the patients being so well satisfied with one eye, they refused to submit to an operation on the other. In no instance did iritis occur. This was guarded against by the instillation of atropine. In one case I extracted the lens too soon after trituration, and I was compelled to wash out the anterior chamber to free it of cortical matter before I could get a clear pupil. I wait now from four to five weeks before attempting extraction. In the light of my present experience I do not hesitate to urge the operation in suitable cases, as I believe it is free from danger and enables us to restore patients to a life of usefulness and pleasure when they would otherwise be compelled to wait many weary months under the old plan.

RHINOPLASTY.[1]

By EARL M. GILLIAM, M.D.,

columbus, o.

Mrs. G——, aged forty-five, nervous temperament, subject to extreme attacks of neuralgia, consulted me about two years ago, in regard to a growth near the inner canthus on the left side of the nose. This appeared eight years previous. Having diagnosed it as morphea, but not being absolutely sure, I advised her to consult some good skin specialist. She consulted Professor George Henry Fox, of New York City, who pronounced it to be morphea, while Professor Piffard called it epithelioma. Dr. B. Merrill Ricketts, of Cincinnati, termed it morphea and operated on her December, 1892, removing the left eyeball and the left side of the nose, together with the entire lower and part of the upper eyelids.

At the expiration of six weeks' treatment, she returned home and placed herself under my care. Owing to the loss of the periosteal coverings of the nasal, lachrymal, and nasal process of the superior maxillary bones, they became necrosed, and I removed them at different periods. They left a very ugly-looking hole, and on December 11, 1893, I concluded to try and restore the entire left side of the nose by a rhinoplastic operation.

On account of the vast amount of cicatricial tissue ensconcing the opening, I was exceedingly apprehensive of the ultimate result. Having disinfected the parts, a piece of oiled silk one-third larger than was needed to cover the parts to be restored, was placed upon the forehead in such a manner as would give an angle to the flap, which when twisted upon itself could not interfere with the circulation of the pedicle. Commencing at the inner canthus of the right eye, an incision was made down to the periosteum, and following the outline of the pattern, ended at the top of the bridge of the nose. The angular artery (which by the way is a most important factor as regards the ultimate result, was included in the flap, as it furnishes nutriment to its tissues. The flap being dissected back, was placed upon absorbent cotton impregnated with bichloride of mercury, and the cicatricial tissue at the edge of the opening removed. Having arrested the hemorrhage, the margins of the flap were dove-tailed into the edge of the opening by numerous silk sutures one-eighth of an inch apart. The gap on the forehead was closed by dissecting back the tissues a sufficient distance, so as to allow coaptation by hare-lip pins, with figure-of-eight sutures. Warm-water dressings being applied, all things progressed favorably until the ninth day, when suppuration set in, and threatened to destroy the entire flap. This was finally arrested; but an open-

[1] Read before the Columbus Academy of Medicine, October 3, 1894.

ing one-fourth by one-fifth of an inch, on bridge of nose near the tip, was left unhealed. From this time the flap gradually became hypertrophied, and bulged out quite conspicuously, the edges being inverted.

February, 1894, I undertook to close the opening by paring and bringing together the edges with silk sutures, but this failed to materialize.

April 14th.—It was decided to remove the prominence produced by the twisting of the pedicle. Under ether, an elliptical incision was made over same, and all redundant tissue removed; the edges approximated by silk. On the fourth day the sutures were removed and the parts found nicely coaptated.

September 20th.—Another effort was made to close the fistulous opening on the bridge of the nose. This was done at St. Anthony's Hospital. Etherizing the patient, the edges of the opening were pared and all cicatricial tissue removed; the parts were then brought together with silk sutures.

Other incisions in the form of an ellipse were made near lower part of flap, and all of the remaining redundant tissue removed.

During this operation the hemorrhage was terrific and nothing could control it, except long continuous pressure by sponges dipped in boiling water. At the expiration of the third day the sutures were removed, and on the fourteenth day I found the edges entirely healed, except a pin-hole fistula which at this time still exists.

On inquiry I find that this is the second, if not the first, operation of its kind that has been performed in Central Ohio. Our late and most honored colleague, Dr. David Halderman, intended to perform an operation of this character, but as yet I have no authenticity of such. In presenting this case I doubt whether those operators who have performed rhinoplastic operations encountered more difficulties or complications than existed in the above case. They were as follows:

1. An extremely neurotic patient, verging on insanity, produced by a constant dread that the disease was of a malignant type. 2. Having been for years a subject of excruciating attacks of neuralgia, she became emaciated and despondent. 3. Owing to the loss of the lachrymal canal the secretions from the socket constantly bathed the cheek and surrounding structures, excoriating the parts and delaying healing between the edges of the flap and cheek. 4. The reparative power of the tissues was exceedingly limited.

Since the above was written, I succeeded in closing the fistula, after having many remedies prove fruitless, by applying a fifteen per cent. solution of ichthyol in olive oil two or three times daily.

50 North Fourth Street.

Progress of Medical Science.

The Treatment of Apoplexy—Dr. Preston, of Baltimore, believes that in the treatment of apoplexy more might be done in the prodromal stage if this condition were more carefully studied and oftener recognized (*Maryland Medical Journal*). There are no constant or certain prodromata, but in a considerable proportion of the cases here related the history obtained afterward from the patients showed the existence of headache, vertigo, or a sense of fulness in the head, numbness of one side, etc. These symptoms in some instances existed for a week before the apoplectic attack. It is very important to heed these warnings, especially in cases where there is atheroma of the vessels, or where there is high arterial tension without atheroma. Rest, vascular sedatives, nitro-glycerine, large enemata, will often modify the force of the circulation and thus tend to avert the rupture of the artery. Some years ago the writer called to see an elderly woman, stout, with flushed face, headache, and unusually high arterial tension. While waiting for the family physician she was kept absolutely quiet with ice to her head. While consulting in the next room the patient, against orders, got up to use the commode; the arteries could stand no further strain, rupture occurred, and she died in half an hour with all the symptoms of intra-cranial hemorrhage. Venesection would probably have averted this disaster. It rarely happens that the physician sees clearly enough to make use of bloodletting. After the rupture of the artery has taken place, it is doubtful whether venesection does any good. The most important part of the treatment of apoplexy is rest. There is no way by which the bleeding can be stopped, and it is probable that in the great majority of cases the increased intra-cranial pressure tends to control the hemorrhage. The ruptured artery or miliary aneurism is small, as a rule, and it is generally soon occluded by clot. If the amount of hemorrhage is moderate and not in a vital part of the brain, recovery, more or less complete, will take place if the clot remain in its first position. Very often it happens that the original location of the clot was not specially dangerous, but from gravity, or as the result of exertion, the clot has forced its way through the soft brain-tissue and done irreparable injury to more important structures. This can often be seen post mortem, and the track of the clot made out. From this it follows that the greatest care should be exercised to prevent any more moving of the patient than is absolutely necessary. If it be possible, the patient should be laid down on a sofa or mattress in the room where the attack occurs, and no attempt at movement made for twelve or twenty-four hours. It is better to slightly elevate the head by pillows, since this probably tends to modify the force of the heart's action in the cerebral vessels, and at the same time allows respiration to be carried on rather better than when the patient is perfectly flat. Opening the skull has been resorted to, but it is doubtful whether this is advisable, except in the case of meningeal or cortical hemorrhage. The ice-cap to the head is of some use in allaying restlessness, and is extremely good treatment for the relatives and friends. In regard to drugs in this early stage, there are practically no therapeutic indications that can be successfully met. The use of ergot and that class of remedies is of more than doubtful propriety. Aconite may sometimes be used to advantage in controlling a too forcible heart's action. As soon as the patient can swallow, it is the author's custom to administer a mixture of bromide and iodide of potassium, 30 to 40 grains of the former and 10 grains of the latter, and this is kept up for several days, then the bromide is omitted and the iodide used alone in increasing doses. In regard to the custom of administering croton oil or some drastic purge during the early stage, although sanctioned by almost immemorial usage, it is not only useless, but exposes the patient to the risk of making dangerous exertions, besides putting him in a filthy condition. The same objections in part apply to blistering and to the use of mustard. It is important to attend to the bladder and draw off the urine at regular intervals. The throat should be kept as free from mucus as possible and the surroundings of the patient rendered comfortable. These points have perhaps been dwelt upon with unnecessary minuteness, but one so often sees these cases handled in a mischievous manner. The physician, realizing the futility of any active treatment, is too apt to yield to any suggestion made by the family, and the object of this paper is to insist upon a simple and rational treatment of this condition.

The Opium Commission which was sitting last winter in India cost the Government $100,000, half of which expense fell upon the British, and half upon the Indian exchequer.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE WEIGHT OF THE HUMAN BODY.

A SECOND Sanctorius has appeared in the person of Dr. De Parville, a French physician, who records his experiences in *Le Correspondant*. Dr. De Parville thinks we are all wrong in our ideas and methods of weighing the human body. He says: "I have weighed myself regularly every day, at the same hour in the morning and under identical conditions, and to-day I possess a record of five years of experiments conducted with the utmost precision. Every day when weighing myself I record the barometric and hygrometric variations, the temperature, and the dinner menu for the day. These experiments have convinced me more than ever that our weight is in a perpetual state of fluctuation. After eliminating the errors of the instrument, our weight varies, subject to innumerable influences. After breakfast, on a warm day, one loses more than one hundred and fifty grammes an hour."

Dr. De Parville describes in detail the various modifications in human weight, and naturally concludes that an exact knowledge of its fluctuations is very important.

The scales he says are not without their importance in medical practice, especially with infants. The weight of an infant increases in definite proportion during the first weeks of life, and there can be no departure from this regularity of increase without impairment of health. For adult persons, too, it is good to consult the scales, for they are the barometer of health. Any sudden increase of weight, amounting to a pound or so in a day, indicates a tendency to disease. It is evidence of health when the weight does not fluctuate more than three or four ounces from day to day. Great fluctuation implies functional derangement.

Dr. De Parville might have added a good deal to the value of his communication if he had given some of the fundamental facts regarding human weight which anthropologists have collected. The average weight of man, based on statistics collected by Quetelet, Krause, Beneke, Busch, and Hoffmann is 65 kilogrammes, or about one hundred and thirty pounds; that of woman is 55 kilogrammes, or 110 pounds. The variations of normal weight given by Quetelet are 120 to 140 pounds (for the French). Very few people know how much their clothes weigh, but anthropologists have made it a matter of serious study, and Quetelet estimates them to average one-eighteenth of a man's weight and one-twenty-fourth of a woman's. This latter figure must certainly be too low for the prevailing modes. Assuming the estimate to be correct, however, a man's clothes weigh about seven and one-half pounds, and a woman's 5 pounds.

The different parts of the body have been weighed by Harless, and form a contribution to his work on plastic anatomy. The head weighs about nine pounds (4.56 kilogrammes); the hand weighs about a pound, and the foot a pound and a quarter.

These are only a few of the facts of organosthamology with which we regret that Dr. De Parville did not enrich his paper.

THE MISSING LINK FOUND AT LAST.

DR. D. G. BRINTON writes to *Science* under this title and says that Dr. Eugene Dubois, a Dutch army surgeon stationed in Batavia, Java, has found the "link." He, the surgeon, describes three fragments of three skeletons which have been exhumed from the early pleistocene strata of Java, and which introduce to us a new species, as well as a new genus and a new family, of the order of primates, placed between the *Simiidæ* and *Hominidæ*.

The material, we are told, is sufficient for a close osteological comparison. The cubical capacity of the skull is about two-thirds that of the human average. It is distinctly dolichocepalic, about seventy degrees, and its *norma verticalis* astonishingly like that of the famous Neanderthal skull. The dental apparatus is still of the simian type, but less markedly so than in other apes. The femora are singularly human. They prove beyond doubt, says Dr. Brinton, that this creature walked constantly on two legs, and when erect was quite equal in height to the average human male. Of the various differences which separate it from the highest apes and the lowest men, it may be said that they bring it closer to the latter than to the former.

The line of descent, according to Dr. Dubois is: *Prothylobates, Anthropopithecus sivalensis, Pithecanthropus erectus, Homo sapiens.*

The discovery of Dr. Dubois leads him to think that man originated on the southern slopes of the Himalayan chain, which is, after all, not so far from the Garden of Eden; and is just south of the present abode of the mystical Mahatmas. We trust that Dr. Dubois is *homo sapiens.*

THE APOTHEOSIS OF CHRISTIAN SCIENCE.

ON the first Sunday in the year there was dedicated, in Boston, a meeting-house known as the "Mother Church" of the Christian Scientists. It is on the corner of Norway and Falmouth Streets, has an auditorium that will seat thirteen hundred people, and is said to have cost $200,000.

We have no special complaint to make of the criticism of Christian Science which Mr. E. S. Martin makes in *Harper's Weekly*. It is liberal yet critical, conciliatory yet approximately damning. Like most criticisms upon fantastic social phenomena we are told that there is much good indirectly and educationally to be derived from it. In particular do social students

impress their readers with the fact that doctors will learn much from "Christian Science" and allied forms of therapeusis. "The inventor of Christian Science," says Mr. Martin, "was Mrs. Mary Baker Eddy, a seeress who lives in Concord, N. H., and whose countenance, as her pictures represent it, bears an amusing likeness to that of that other familiar benefactor, the late Lydia E. Pinkham. Mrs. Eddy's written works seem to the ordinary comprehension to be exceedingly bad reading. Laurence Oliphant's religious writings are not much worse, and that is putting the case strongly. But as there was a great deal more sense in Oliphant than anyone who had read only his 'Scientific Religion' could have believed, so there must be more sense in Mrs. Eddy than any uninspired understanding can win out of her books. The sect that she started has certainly thrived. It is true that nine-tenths, or perhaps even a larger proportion, of its adherents have been women, but many of them are able to maintain a successful appearance of being extra-clever women. Sickness has undoubtedly been cured, and is constantly being cured in the name of Christian Science. That proves nothing by itself, but the history of Christian Science 'cases' is often interesting, and appearances often indicate the use of a definite therapeutic force which ordinary physicians neither attempt nor assume to exercise.

"More impressive than even the Christian Science cures is the complete satisfaction of the 'scientists' with their persuasion. It seems to become their first interest in life, as perhaps must be the case with any form of religion which really takes hold of the believer. It makes them happy, too, as any controlling enthusiasm does while it lasts, and Christian Science in many cases seems to last very well. But it is hard in this world to get anything for nothing. No one gets much out of Christian Science who does not put a good deal into it. Whether the gain is worth the investment is a question. It seems to be worth it to some people, but they are usually people who have turned to it as a desperate alternative, and stuck to it because it seemed to help them when nothing else did. To people who are not in desperate extremity, the disadvantages of Christian Science usually seem to outweigh its allurements.

"Whether Christian Science will last and continue to grow is a question about which there are many opinions. The present paragrapher guesses that it will fade out after a while, but not soon, and not without exerting some influence both on theology and medicine. It scandalizes the doctors on one side and the reverend clergy on the other, and it has fun with both. They will probably beat it in the end, but they will both be the wiser for meeting it."

The thing that seriously presents itself to physicians, however, is the enormous amount of harm directly and indirectly done by such institutions. He sees the cases of neglected disease, ruined health, and demoralized households, reports of which are never published. We do not say that there is no good in it, but that it remains to be shown that the good outdoes the harm.

The American Neurological Association will hold its next annual meeting at Boston, on June 5, 6, 7, 1895.

THE MILITIA MEDICAL STAFF.

THE laudably prompt manner in which the order was obeyed for the First Brigade of militia to protect Brooklyn in the recent strike riot, brought with it only a minimum amount of difficulty in attending to the immediate requirements for the well-being of the command. Within an incredibly short space of time the entire brigade was, through its ordinance, commissary, and medical departments, fitted for field duty. It is with no small show of pride that we refer to the admirable arrangements made by the surgeons of the different regiments to meet any urgent requirements in their departments. Officered by thoroughly competent surgeons, who are specially trained for camp and field duty, with some of our brightest medical men in the ranks willing and able for special details, and with well-equipped and well-disciplined ambulance corps, our militia soldiery need to be congratulated on the incomparable excellence of this arm of the service.

Happily no serious injuries were inflicted upon the soldiers, although the cowardly attacks of the mob from the streets and housetops exposed the guards and pickets to even greater danger than in line of battle. The inclement weather, and the necessarily prolonged guard duty resulted in considerable sickness among the different commands on duty, but the prompt and efficient watchfulness of the regimental surgeons averted what would otherwise have been an ominously large sick list. The citizens of New York glory in their well-disciplined and ever-ready militia, and the profession is equally proud of the medical staff, so well represented in the different regiments.

THE CATHOLIC CHURCH AND OBSTETRICAL SCIENCE.

THE Bishop of Augsburg recently issued a pastoral on the subject of obstetric practice in which he took the stand, upon which all Catholics are usually supposed to be agreed, that the induction of artificial labor, the child being yet alive, is under no circumstances allowable. It is, in the words of the pastoral, "a sin and morally reprehensible" for a physician to induce artificial abortion, no matter how imperatively the safety of the mother demands it. That this, however, is not the authoritative teaching of Rome is apparently shown by an anonymous writer (whom, however, the editor endorses as "inspired") in the *Münchener medicinische Wochenschrift* of December 25, 1894. The writer says that the Bishop of Augsburg speaks without proper authority, and that his injunctions are binding at the most upon the faithful in his own diocese, and must not be accepted as the universal teaching of the Church. The Catholic Church, he says, whatever overzealous and uninstructed individual members of it may do or say, is never inimical to true science. In support of this writer's contention that premature delivery, when absolutely necessary to save the life of the mother, is not contrary to the teachings of the Church, he quotes Dr. Wirthmüller, Professor of Moral Theology at the University of Munich, and Father Lehmkuhl, a well-known Jesuit theologian. The former authority

says that a sacrifice of the fœtus can never be permitted except when the mother's life is so jeopardized by pathological changes induced by the pregnancy, that the only possible means of saving her is to terminate the latter artificially. Lehmkuhl, speaking of craniotomy, says that there are not wanting writers who defend it when the life of the mother is in great danger. He himself is more cautious, yet says that he would leave the one performing such an operation in good faith to be judged by his own conscience, provided only that he had baptized the infant before perforating. Finally the writer recalls a judgment which was formally expressed by a congregation of cardinals in Rome. The question was submitted whether craniotomy, or any operation directly tending to destroy the life of the fœtus in utero, was ever justifiable. The sacred congregation replied that, "after mature deliberation, it would advise the questioner to follow the most approved authorities, whether ancient or modern, and act prudently." In other words, Rome would not condemn the operation if performed under the authority of approved medical teaching, and in the interests of the mother. This is certainly a logical as well as conservative opinion, for if it is wrong to take one life to save another, it cannot be lawful to suffer two lives to be destroyed when one might have been saved.

SULPHUR AS A SUBSTITUTE FOR IODOFORM.

At a recent meeting of the Royal Medico-Chirurgical Society, Mr. Arbuthnot Lane read a paper on the employment of sulphur as a germicide dressing. He took the dressing up as a non-poisonous substitute for iodoform, from the effects of which he lost a patient last year. He began to use it about a year ago in disease of the hip-joint, and naturally found that it produced a sharp caustic effect on the tissues, with escape of sulphuretted hydrogen. He reported cases of extensive tubercular disease of elbow, knee, tarsus, prostate, and spine, of septic gangrene of the leg, of lupus, and of carbuncle. He found he could sterilize healthy tissues, so far as organisms are concerned, by applying the powder for twenty-four hours, but in granulating parts, or such as were badly supplied with blood, as, *e.g.*, the brawny edge of carbuncles or spreading gangrene, a much longer time was required. No doubt the sulphur is slowly oxidized and sulphurous acid is the real disinfecting agent. Some of this is further oxidized, and the sulphuric acid which results is responsible for the caustic action observed. Still, as Mr. Lane found the dressing painless, the caustic acid must be formed very slowly and to only a slight extent. It was suggested that sulphurous acid might as well be used directly, as it was at Metz during the Franco-Prussian War in 1870, with very great success. But even long before that time it was loudly applauded as the great sulphur cure for diphtheria, foul abscesses, and other conditions where its disinfecting power could be utilized in liquid and in sprays. The powder has also enjoyed considerable repute in diphtheria and other diseases. There are, no doubt, cases in which the sulphur in powder is not only the most convenient form, but in which the gradual evolvement of the gas may be the most effectual. Mr. Lane may, therefore, be commended for reinforcing the use of one of the most ancient remedies, though all he stated could have been forestalled by therapeutists who know the history of remedies.

News of the Week.

The Medical Society of the State of New York will hold its eighty-ninth annual meeting in Albany, on Tuesday, Wednesday, and Thursday, February 5th, 6th, 7th, under the presidency of Dr. George Henry Fox, of New York City.

Municipal Health Changes.—A bill has been presented to the State Senate of New York, to provide for a physician as president of the Health Board, and also one to separate the Department of Charities from that of Correction.

Bequests of the Late Dr. Alfred L. Loomis.—The estate of the late Dr. Loomis amounted to $1,000,000. By his will a fund of $25,000 is created for the Loomis Laboratory, the income to be applied annually to its use. To the New York Academy of Medicine is given $10,000, to be known as the "Loomis Entertainment Fund," the income to be used annually in providing entertainment for the fellows of the college.

Dr. Joseph Fanyou, a prominent physician, who had been practising in New York City for about twenty years, but who had a residence in Bridgeport, Conn., died at his home in that city, January 25th, aged fifty-four.

Recent Returns have been made in Paris as to the application of the antitoxin treatment. In 2,700 cases of diphtheria previous to January 1st, there were 433 deaths, or sixteen per cent. This reduction in the mortality is about one-half.

The Berlin Debate on the Diphtheria Antitoxin.—To sum up the whole debate, the feeling generally was that the time has not yet come to pronounce a final judgment on this important question, as it could not be clearly proved that the lowering of mortality was due to the treatment or to the milder character of this year's cases. But all were agreed that the complications reported by Dr. Hansemann as following upon the treatment were of no importance, and that no patient had come to any harm by the injections. It was a subject of general remark that none of Professor Koch's or Professor Behring's assistants said a word in the debate.—*Lancet.*

A Proposed Hospital for the Homœopathic Insane.—A bill has been introduced in the Illinois Legislature providing for the establishment of a hospital for the insane, to be managed on "homœopathic" principles, whatever they are. The existence of the "homœopathic" sect shows some mental aberration, but this is the first public admission we have seen that any considerable proportion of them required confinement. There is nothing infinitesimal about the proposed appropriation, as the bill provides for an expenditure of $400,000.

The Cleveland Medical Society held its annual meeting on Friday evening, the 11th ult. Officers for the ensuing year were elected as follows: *President*, Dr. William E. Weir; *Vice-Presidents*, Dr. A. F. House and Dr. Henry S. Upson; *Recording Secretary*, Dr. W. F. Brokaw; *Corresponding Secretary*, Dr. Frank S. Clark; *Treasurer*, Dr. N. Stone Scott. In the address by the retiring president, Dr. W. H. Humiston, it was stated that the society had 291 members, and that the average attendance at the meetings during the year had been 135, so that in the matter of attendance it was second to no medical society in the United States. The meetings are held once in two weeks.

The Late Dr. James Hewitt.—At the regular meeting of the New York Otological Society, held at the Academy of Medicine, January 22, 1895, the following resolutions were unanimously adopted and incorporated in the minutes of the Society. "The New York Otological Society desires to place upon its minutes the sense of the loss it has sustained in the death of Dr. James Hewitt, one of its founders. Although but a young man at the time of his death, Dr. Hewitt had already attained a prominent position in his profession, and had he lived, would undoubtedly have become one of the distinguished aurists of his time. With a singularly retiring and quiet nature, he had a most genial and cheerful disposition, and a simplicity of bearing, and kindliness in speech and manners, that endeared him alike to his friends as well as his patients.

Resolved, That these resolutions be printed in the medical journals of this city, and that a copy of the same be sent to the family of the deceased.

GORHAM BACON, M.D.,
J. B. EMERSON, M.D.,
Committee.

A Chair of Hygiene at West Point.—The Sub-committee on Hygiene and Athletics of the West Point Board of Visitors recommends the establishment of a Chair of Anatomy, Physiology, and Hygiene. Such a chair already exists at Annapolis.

The Medical School of Maine.—The Medical School of Maine is said to be in prospect of an income of $8,000 a year from invested funds. For some reason the bequest has not as yet become available to the school.

New York State Medical Association, Fifth District Branch.—The Eleventh Annual Meeting of the Fifth District Branch of the New York State Medical Association will be held in Brooklyn on Tuesday, May 28, 1895. All Fellows desiring to read papers will please notify the Secretary, Dr. E. H. Squibb, P. O. Box 760, Brooklyn, N. Y.

The Late Dr. Henry Goldthwaite.—At a special meeting of the Medical Board of the City Hospital, held at the New York Academy of Medicine, January 17, 1895, the following preamble and resolutions were unanimously adopted:

Whereas, We have learned with deepest regret of the death of our revered colleague, Henry Goldthwaite, M.D.; therefore,

Resolved, That in the death of Dr. Henry Goldthwaite we have lost a valuable and useful friend. His heart was warm and benevolent; to the poor and suffering he was devoted and consoling. With the highest sense of duty, he never spared himself, but always met with manly courage the responsibilities of his position. He was a wise counsellor, a warm and valued friend, a colleague of acknowledged forethought and wisdom, and a man of inflexible honesty and pure, upright character.

Resolved, That we deeply sympathize with the widow of the deceased and the other members of the family; and that a copy of these resolutions be transmitted to them, and that they be published in the medical journals.

ALEX. W. STEIN, M.D.,
T. H. ALLEN, M.D.,
J. A. ANDREWS, M.D.,
Committee.

The Regulation of Medical Practice in Massachusetts.—The First Annual Report of the Board of Registration in Medicine has just been presented at the State House. The whole number of applications of all kinds received up to January 1st has been 4,390. The whole number of certificates issued has been 3,017. Of these, 2,817 have been issued to graduates, and 200 have been issued to practitioners of three years' standing; 294 applications have been rejected, leaving some to be accounted for. A large number of these are simply awaiting engrossment, and certificates will soon be issued. Every application received has been carefully investigated, and none has been rejected unless passed upon by the full board. A number of those recently received are now being looked up, and some among them no doubt will be found which should not be accepted. "Polk's Medical and Surgical Register" for the year 1893 gives the total number of practitioners as 4,012, classified as follows: Regulars, 2,646; homœopathics, 687; eclectics, 221; not belonging to the foregoing classes, 458. There are now four medical schools in this State which confer degrees in medicine.

Professor Chittenden's Cartwright Lectures for last year, published in the MEDICAL RECORD, are to be republished in book form in March next. The numerous applications for reprints have made this a necessity. Further information can be obtained by addressing Professor R. H. Chittenden, Yale University, New Haven, Ct.

The Hospitals of London treat annually in their outpatient departments 1,308,813; in their wards, 83,341. The total expenditures in 1893 were $3,499,315. In the last eight years the expenditures have increased 40.30 per cent., the incomes 14.419 per cent., and the patients about forty per cent. What will be the end? In ordinary commercial institutions it would be bankruptcy.

Foot-ball in England.—During the winter of 1893–94, more than twenty million dollars gate money was taken in, and this only takes into account the club matches. The wages paid to professionals amounted to four million.

New Hospital.—The Woman's Hospital, of Portland, Ore., was recently opened. The staff of physicians is as follows: For Diseases of Women, Drs. E. P. Fraser, William Boys, and E. F. Tucker; Diseases of the Nervous System, Dr. Everett Mingus; Obstetrics, Dr. A. W. Moore.

The Philadelphia Board of Health.—The Councils of the city of Philadelphia having appropriated $15,000 for supplying antitoxin, it is the intention of the Board of Health to establish a Bacteriological Laboratory.

Prize Essay on Tuberculosis.—Dr. Herman Weber, of London, has given the Royal College of Physicians $12,500 for the foundation of a prize to be offered every two or three years for the best essay upon tuberculosis.

The Pennsylvania State Board of Medical Examiners will meet on February 14, 1895, in Philadelphia, at the northwest corner of Broad and Pine Streets, to examine applicants for license to practise medicine in the State.

Medical College of Indiana —The Faculty of the Medical College of Indiana held a meeting December 14, 1894. It was decided to erect a new building at a cost of not less than $50,000.

New Amphitheatre.—The operating amphitheatre of the hospital of the Medical College of Virginia, at Richmond, has been remodelled and supplied with all the latest aseptic operating furniture and apparatus. This department is presided over by a trained nurse, whose sole duty is to care for the operating-room, prepare the patients, and assist at operations.

Army Medical School.—There are only two Assistant Surgeons in attendance at the current session of the Army Medical School as against seven in 1893–94. The decreased attendance at the session of 1894–95 is due to a reduction of the number of Assistant Surgeons, U.S.A., by recent act of Congress.

A Fin-de-Siècle Hospital for the Tuberculous.—A novel kind of hospital has been opened at Ormesson, close to Villiers, on the river Marne. One portion of the building is devoted exclusively to the treating of tuberculous children, and is separated by the whole length of the garden from the main structure. On the ground floor are the consulting and operation rooms, inhalation and bath rooms, and a bacteriological laboratory. The wards are supplied with ozone from leather bags. Sun and air baths are taken on a terrace furnished with comfortable couches for the purpose. Kerosene, turpentine, eucalyptus, and similar bactericides are mixed with the atmospheric air of certain portions of the building. There are no published results yet available, but the experiment, though by no means so sensational as some of those to which we have been recently accustomed, is of a decidedly interesting character.

The Society of the Lying-in Hospital of New York have formally opened up their new hospital at Seventeenth Street, corner of Second Avenue. The old hospital at Broome Street will still be retained as an emergency station. Heretofore the service conducted by this Society has been entirely an outside one, the patients being confined and taken care of at their homes. The new hospital enables the Society to add to the present outside service an inside one. The building is fitted up in the most modern manner to carry on a large obstetrical service, there being five wards with thirty beds, three examination rooms, and an operating theatre which has every convenience and appliance necessary for scientific midwifery. The attending physicians are: Dr. James W. Markoe, Dr. Austin Flint, Jr., Dr. J. Clifton Edgar, Dr. H. McM. Painter, and Dr. Samuel W. Lambert. The resident staff are: Dr. Maxwell H. Allen, Resident Physician, and Dr. Alfred Bleil, Dr. John Taylor, Dr. W. E. Ard, Dr. C. B. Young, Dr. John Reb, and Dr. S. J. Craig, assistants.

Prevalence of Diphtheria.—The following is a table showing the percentage of deaths from diphtheria on the estimated population during the years 1892 and 1893, as officially received from a few of our larger cities in this country:

	1892.	1893.
New York	0.08	0.10
Chicago	0.07	0.06
Philadelphia	0.13	0.08
Brooklyn	0.08	0.06
St. Louis	0.04	0.04
Boston	0.09	0.10
Baltimore	0.08	0.04
San Francisco	0.07	0.05
Cincinnati	0.09	0.05
Buffalo	0.06	0.05
Cleveland	0.07	0.04
Washington	0.07	0.04
Pittsburg	0.11	0.06
Milwaukee	0.16	0.08
New Orleans	0.02	0.03

It will be observed by this table that in 1892 the largest death-rate from this disease in fifteen of our largest cities, was in Milwaukee, Philadelphia, and Pittsburg, being 0.16, 0.13, and 0.11 respectively; and the smallest rate for the same year was in New Orleans, St. Louis, and Buffalo, being 0.02, 0.04, and 0.06 respectively. While in 1893 the largest rate was in New York, Boston, and Milwaukee, being 0.10, 0.10, and 0.08 respectively; and the smallest rate was in New Orleans, Washington, Cleveland, Baltimore, and St. Louis, being 0.03, 0.04, 0.04, 0.04, and 0.04 respectively. These figures are approximately correct.—Dr. U. O. B. Wingate.

Medical Testimony.—The President of the United States recently pardoned a prisoner undergoing sentence in the Jeffersonville Prison. The pardon was granted on a certificate from several medical men that he was incurably diseased. After release he boasted of his good health, whereupon an investigation was ordered and the prisoner was afterward examined by a representative of each medical college in the city, and the first report of the prison physician was corroborated. It was found that he had a cavity in one lung, had hectic, pulmonary hemorrhages, night-sweats, loss of flesh, elevated temperature, and considerable cough.

Lancaster (Pa.) City and County Medical Society.—The regular meeting of the Lancaster City and County Medical Society was held January 2d. The election of officers resulted as follows: *President*, Dr. T. J. Wentz, New Providence; *Vice-Presidents*, Drs. J. A. E. Reed and J. F. Trexler; *Recording Secretary*, Dr. William Blackwood; *Corresponding Secretary*, Dr. Walter Boardman; *Treasurer*, Dr. G. R. Rohrer; *Censors*, Drs. A. M. Miller, Bird in Hand, William Comptom, and M. L. Davis.

Reviews and Notices.

A TEXT-BOOK OF VOLUMETRIC ANALYSIS. With Special Reference to the Volumetric Processes of the Pharmacopœia of the United States. By HENRY W. SCHIMPF, Ph.G. New York: John Wiley & Sons. 1894.

THE book is designed for the use of pharmacists, although physicians will equally profit by its perusal.

The first portion of the book contains the principles of volumetric analysis, which are given in a thorough and concise way. The latter portion is devoted to descriptions of such special analytical processes as are used by the pharmacist or physician. Chapter XIV., "Sanitary Analysis of Water," contains a minute description of the way water should be examined and analyzed. We mention the following excerpts from the text:

"In collecting samples of water great care must be exercised in order to secure a fair representation of the water and to avoid the introduction of foreign matters. The samples should be collected in clean glass-stoppered bottles having a capacity of from two to five pints."

"Color: This may be taken by looking down through a column of water in a colorless glass tube about two feet long, standing upon a piece of white paper. A comparison is made with a second tube containing distilled water."

"Odor: Three or four ounces of water are placed in a small flask fitted with a cork through which is passed a thermometer; the flask is placed in a water-bath and heated to 100° F. The flask is then shaken, the cork withdrawn, and the odor immediately observed. In this way satisfactory and uniform tests are obtained, and a practised nose can frequently detect pollution."

This book deserves highest recommendation.

HEART STUDIES, CHIEFLY CLINICAL. Vol. I. The Pulse Sensations. A Study in Tactile Sphygmology. By WILLIAM EWART, M.D. Cantab.; F.R.C.P. London, M.R.C.S. Eng.; Physician to St. George's Hospital, and to the Belgrave Hospital; Examiner in Medicine at the Royal College of Physicians of London, etc. Pp. xxiv., 486. London: Baillière, Tindall & Cox. 1894.

THIS substantial volume is a plea for the study and practice of tactile sphygmology. The author is well known to our clinicians through his little books, "How to Feel the Pulse" and "Cardiac Outlines," repub lished in this country. Regretting the relative neglect of the valuable clinical information to be obtained by the educated touch of the physician, as compared with the elaborate detail and mechanical accuracy of the sphygmograph, he sets himself at work to bring the results of physiological research and bedside observation of the digital examination of the pulse into harmony with other methods of investigation, as they are practised in the last decade of the nineteenth century. Taking as his text the carefully described work of Henri Fouquet, the skilful physician of Montpellier, he shows that neither his methods nor his observations have obtained due recognition. While it is evident that Fouquet recorded what he felt, it is by no means certain that some of his recorded observations were not those of errors into which his faulty methods led him. Notwithstanding this, we believe that he did not merit the criticisms which Broadbent has, within recent years, applied to his work. The value of tactile as compared with mechanical sphygmology is certainly very great. In spite of mechanical perfection, in spite of the earnest work of numerous experimenters, the sphygmograph is to-day hardly to be considered as a necessary instrument in the equipment of the physician. The sphygmograph registers variations of pressure—within limits only—without defining their absolute value, while it does not claim to judge of the volume of the artery at the various stages of the pulse waves; nor does it supply us with any data as to the modifications in the rapidity of the blood stream. The author reviews the work of von Kries, of von Frey, and of Roy and Adami, and endeavors to reconcile their conflicting views based upon work with various mechanical devices, and at the same time to bring their results into harmony with his conclusions derived from a careful study of his tactile sensations. That he has admirably succeeded, anyone who will thoughtfully read his book must admit. Stating that the pulse-beat, here termed *ictus*, is produced by the ascending wave of rebound from the periphery, he prescribes the correct method of best appreciating it and its variations, discusses its physiological and clinical modifications, and finally harmonizes his deductions with those reached by the best workers with the sphygmograph. The author has chosen a neglected field, for, although physicians have felt the pulse they have, either from lack of education or from indifference to what has become a routine practice, failed to fully appreciate the information which it may convey. The subject is presented clearly and in an interesting manner. The typography is inviting and singularly free from errors. Of the many books which come to our table we would select this as one of the most important for the careful study and the intelligent practice of the conscientious physician.

A DICTIONARY OF MEDICINE. Including General Pathology, General Therapeutics, Hygiene, and the Diseases of Women and Children. By Various Writers. Edited by RICHARD QUAIN, Bart., M.D. Lond., LL.D. Edin., F.R.S.; Consulting Physician to the Hospital for Diseases of the Chest, Brompton, and to the Seaman's Hospital, Greenwich, etc. Assisted by FREDERICK THOMAS ROBERTS, M.D. Lond., B.Sc., Physician and Professor of Clinical Medicine, University College Hospital, etc., and J. MITCHELL BRUCE, M.A. Abdn., M.D. Lond., Physician and Lecturer on the Principles and Practice of Medicine, Charing Cross Hospital, etc. With an American Appendix by SAMUEL TREAT ARMSTONG, M.D., Ph.D., Visiting Physician to Harlem, Willard Parker, and Riverside Hospitals, New York. Two vols., royal 8vo, pp. 1260 and 1305. New York: D. Appleton & Co.

THE present work was first issued in a large single volume in 1882, and now appears so much enlarged that two volumes are necessary to compass its scope. The type has been enlarged and its typography proportionately improved. The number of pages has been increased from 1834 to 2518; 43 new illustrations have been added, making 181 in all.

As the title indicates, this is a Dictionary of Medicine, with the subjects arranged alphabetically and treated by numerous well-known authorities. The condensations under the respective headings are, as a rule, admirable for their perspicuity and practical character. The essentials of information are given in such terseness and reasonable completeness as to leave nothing to be desired on the part of the students to turn to the different subjects for ready and useful information. The progress of medicine during the past decade, unprecedented as it has been, necessitated much revision and modification of views, more especially since bacteriology, with its notable discoveries and significant suggestions, has mapped out new lines for the study of the causes, and new methods for the treatment, of various infectious diseases. From such standpoints the work is essentially different in quality from its predecessor, being as it is entirely up to date on all matters pertaining to the progressive medicine of to-day. The various articles are virtually monographs in themselves, with the great merit of being shortened to

the smallest possible limits. Each is signed by the author, giving it the directness and authority so much needed in a work of this character. It would be impossible, with the immense number of topics treated, to discuss the relative merits of each. On the whole we must be forced to admit that the different amounts of space allotted to different topics are so nearly apportioned to their respective importance that criticism gives place to commendation, and invidious comparison to necessary consistency. If anything the illustrations, excellent and well selected as they are, might have been more numerous. But here again a more or less arbitrary limit would always be necessitated. The talented American editor has done his work faithfully in an appendix to each volume, and has in a great measure made the work more acceptable to the profession in this country than would otherwise have been the case. His notable and creditable contributions have been on the lunacy laws of the United States, the milk cure, the quarantine laws, and serum therapeutics, and a full account of the different mineral springs and health-resorts of this country.

LEITFADEN DER GERICHTLICHEN MEDICIN, FÜR STUDIRENDE UND AERZTE. Von DR. K. J. SEYDEL, a.o. Professor an der Universität und Gerichtlicher Physicus in Königsberg, i. Pr. Berlin: S. Karger. 1891.

FORENSIC medicine has been a strangely neglected science in Germany up to within a comparatively recent period, so that the author of this book had a fresher field to work than most writers on medical jurisprudence in other lands. The present work is by no means exhaustive, having to do chiefly with the signs of violent death in adults and infants. Over two hundred and fifty out of the two hundred and eighty pages of the book are given up to this subject, which is very fully and satisfactorily treated. The publisher's part of the work is well done, the book being clearly printed with new type on good paper.

THE MEDICAL REGISTER OF NEW YORK, NEW JERSEY, AND CONNECTICUT, for the Year commencing June 1, 1894. By JOHN SHRADY, M.D., Editor. Vol. XXXII. G. P. Putnam's Sons. 1894.

THIS welcome and widely appreciated annual was somewhat delayed in its appearance in consequence of the fact that the enterprise "was begun much too late to insure speed in publication without too great a sacrifice of accuracy." When, however, we consider the evident painstaking to make this volume the model of its kind of varied and trustworthy information concerning everything medical in the lines of registration, and in all other matters wherein the medical profession of New York and the neighboring States are interested, we can congratulate the editor and society on the gratifying outcome. It has become so much the habit with the busy doctor here and elsewhere, whenever he wishes to be informed of medical men, hospitals, and other charitable institutions, nurses, medical organizations, civil and military, medical laws, etc., to go to the "Register" as authority, that it is always a desirable regulation for business to have this handy volume within easy reach.

PHYSICIAN'S COMPLETE ACCOUNT BOOK. Arranged by J. MARSHALL HAWKES, M.D., and R. HARLAN HAWKES, M.D., New York City. New York: Peckham, Little & Co.

THIS is a well-arranged account book of about 7½ × 10 inches, with a lettered index in front. It contains spaces for 100 long and 650 short accounts, obstetrical record, etc. It is intended to answer for two years. The price is $3.00.

"**Physician, Wheel Thyself**" is the motto under which bicycle-makers are now appealing to the profession.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 20, 1894.

D. B. ST. JOHN ROOSA, M.D., PRESIDENT, IN THE CHAIR.

Presentation of an Oil Painting by John Blake White, "Resuscitation from a State of Trance."—DR. T. GAILLARD THOMAS made the presentation address on behalf of the donor, Dr. O. A. White. Dr. Thomas said it gave him pleasure to grant the request of his friend, Dr. White, and present to the Academy a painting by his father, one of the greatest artists of his native State, South Carolina. Mr. White was a man who had been ahead of the time in which he lived, and had strongly combated the three great vices of the South in the early part of this century—intemperance, duelling, and a lack of patriotism for the Union. He had painted a number of pictures that were widely known and dear to the American people. The picture presented to the Academy was an historical one, and represented a scene over two hundred years ago. A young woman had fallen into a trance and had been placed in a vault; two robbers had cut their way into the vault in order to secure the jewels, and, in trying to remove the rings from the fingers, cut the hand, and by this act resuscitated the young woman from her trance. This is the part of the scene represented by the picture. Dr. Thomas said that Dr. White presented the picture to the Academy for three purposes, viz., as an expression of the pleasure that he received from the Academy, to perpetuate the memory of his father, and to form a nucleus for an art collection in the Academy.

DR. ROOSA, in accepting the picture on behalf of the Academy, expressed the hope that others would contribute pictures that would add a new feature to the Academy, the nucleus of which had been started by Dr. White.

Report of Committee on Quarantine.—The Committee reported that it had done a great deal of work to secure the establishment of a National Board of Health, and that in all their efforts they had met with the approval of the profession. They had presented a bill to Congress, but the bill had not been reported. They expressed their belief that much would yet be accomplished in the matter.

On motion of Dr. Thomas, the Secretary was instructed to write a letter of thanks to the Chamber of Commerce for its financial and moral aid to the Committee on Quarantine.

The Influence of the Bicycle in Health and in Disease.—DR. GRÆME M. HAMMOND read the paper on the above subject. (See page 129.)

In opening the discussion DR. A. D. ROCKWELL stated that Oliver Wendell Holmes had once said "that if all the drugs were cast into the sea it would be better for man, but worse for the fish." He believed there was a curve of health, and that if men and women could only learn to eat and exercise correctly, the druggist's business would languish. He had used the bicycle for five years and wished that he had used it five years sooner. While he was an ardent advocate of bicycling he believed more evil came from indiscriminate riding than from any other exercise, for there was a fascination about it that was not found in walking, etc., and in the exhilaration of the exercise it might be carried to excess. He knew a young man who worked hard, and for two years had been in the habit of going on tours on his bicycle, often riding a hundred miles a day, until it began to injure him and he had to be more moderate. One advantage of the wheel was that it was easier to get persons to take exercise that way than by walking. No one should ride bent forward, or enough so to compel mouth-breathing.

Reduced His Age and Weight.—Dr. S. D. Powell said that he had begun to ride the bicycle in May, and since that time had reduced his weight twenty-six pounds and his age twenty-six years. He regretted that he had not learned to ride the wheel sooner, but thought it was because he had been prejudiced when in college. He had come from the South and had never seen ice, and was persuaded that if he would put on skates and start off without help no one would know whether he had ever been on skates or not. He tried it, and when he was asked to ride a bicycle he thought it was another trick. He had to administer a little parental discipline to his son who said, "Papa, you don't know anything about it; I'll bet you fifteen dollars you can't ride a wheel fifteen feet and not fall of." He won the fifteen dollars and had been riding the wheel since.

If a man stayed well within the limit of exercise it would do good, but if he went beyond it he must pay for it. The limit varied in different persons, and a healthy person could ride a bicycle as well as take any other kind of exercise. The exercise did not affect the legs alone, as any one could prove by riding until tired, when every muscle would be felt affected. As for the effect on the genito-urinary organs, no one who has diseased prostate, for instance, can irritate it without injury, whether that irritation be by riding the wheel, sitting, or anything else. There were fools and there always would be as long as the world lasted, but he did not believe in condemning a good thing because such persons abused the use of it.

Dr. William M. Polk said he was an amateur of the amateurs, and suspected that he was put down to discuss the paper because he and the chairman had at one time planned to learn the pleasant exercise together. He was induced to take up bicycling by the hope of long life and much joy. The long life was yet a question of time, but as for the much joy, he wanted to say that it was not altogether unalloyed, for the wheel sometimes proved to be an unruly beast to ride. He had suggested bicycling to some of his patients with favorable results, and he believed there were some female diseases that would be benefited by it. He thought it would be especially beneficial in dysmenorrhœa.

Dr. Frank Van Fleet gave a short history of the bicycle, and said that he believed the "safety" would do much for the mental and physical development of the race. He thought the best time for exercising on the wheel was early in the morning, while the natural scenery was so inviting and inspiring. The exercise was evidently a healthy one, and the ridding the system of so much waste matter by means of the perspiration was very beneficial. If bicycling had had the same effect on him that it had on Dr. Powell he would surely have to give it up, for he had too much trouble now on account of his youthful appearance and light weight. Fortunately he had gained twenty pounds during the last two years.

Dr. S. S. Burt said he must disagree with Dr. Van Fleet on the five o'clock question, for he did not believe in so much exercise before breakfast. One of the main advantages of bicycle riding was that it was so attractive, and that a man would take exercise in this way when he would not by walking.

Dr. H. Holbrook Curtis thought it was important to have the throat and nose examined, as often trouble came from mouth-breathing. No exercise should be undertaken without the mouth being closed. He thought leaning forward in riding the bicycle was caused by low handles; that women rode low saddles for the convenience of getting on and off, but if they were to ride with the saddles higher there would be no trouble from irritation of the genito-urinary organs, and they would not suffer from backache.

Transmission of Advertising Matter through the Mails.—Dr. A. Jacobi offered the following resolution, which was adopted: That medical books, pamphlets, and circulars, the contents of which are of a character not proper for general and indiscriminate perusal or circulation, should not be admitted to or transmitted through the mails unless enclosed in sealed envelopes or wrappers, and prepaid at letter rates of postage, unless addressed for delivery to or in care of physicians, surgeons, medical schools or colleges, or students in such schools or colleges, or to dealers in medical publications, and directed to them as such.

The Academy requested Dr. Jacobi to present the above resolution to such other medical societies as he should see fit, and to secure their indorsement of the same.

SECTION ON GENERAL MEDICINE.

Stated Meeting, December 18, 1894.

W. H. Porter, M.D., Chairman.

The Use of Vaso-constrictors in Cardiac Disease.—Dr. Reynold W. Wilcox read the paper of the evening on the above subject. (See page 141.)

Opposed to Whipping up a Weak Heart.—In discussing the paper, Dr. Charles E. Quimby said that he was forced to differ from the author of the paper as to the means of securing compensatory hypertrophy of a weakened heart. It would not do to put the heart to doing more work when it was already overworked and was failing from that overwork. An increased amount of work might be the treatment for a fatty heart, but he did not believe in the principle of increasing the work of an already weakened heart to make it hypertrophy. His treatment of a weakened heart was to secure as much rest for it as practicable. When the vascular tension was low and nutrition of the cardiac muscles impaired, the vaso-constrictors were indicated. Dr. Quimby said he had hoped the author would say something about valvular lesions. Eight years before he had begun the use of the pneumatic cabinet, had studied the effect of the alternate pressure, and was convinced that it gave more relief than drugs.

Dr. W. E. Porter said that as the nutrition of a part was secured by the blood that passed through the capillaries of the part, it was expedient to spread that surface out and not to force the blood through too fast, else the desired nourishment would not be secured. His experience had been that the vaso-constrictors shut off the blood-supply by driving it through the arterioles and capillaries too fast. He thought that digitalis was useful when the blood was largely on the venous side, for it was useful to take the larger volume of blood on the arterial side. Dr. Porter said he agreed with Dr. Quimby, that it was a bad thing to whip up a weak heart.

Dr. William M. H. McEnroe said he hoped to hear more stress put upon the use of the nitrites. He had used nitro-glycerine a great deal in his own case, and was of the opinion that digitalis was not the proper thing without it. Fifteen years before he had begun to take digitalis and found that it increased his nervousness, and he felt worse until Dr. Loomis told him to use nitro-glycerine also, when he found that this counteracted the bad effect of the digitalis. He had also used nux vomica and strophanthus, but at no time left out the nitro-glycerine.

In concluding, Dr. Wilcox said he agreed with Dr. Quimby, that it was a bad habit to whip up a weak heart, but he was of the opinion that the only way to compensate the heart was to give it more nutrition, and it was the slow blood-current that failed to provide the necessary nutrition. There was also the clinical fact that by increasing the heart work the heart became hypertrophied. Dr. Wilcox said the plea of the paper was that by the use of digitalis the pulse-rate could be controlled; that the effect on arterial obstruction could be easily cut out; that by the vaso-constrictors work could be increased, but was subject to the nitrites.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

NEW YEAR'S HONORS—SIR RUSSELL REYNOLDS—SIR J. E. ERICHSEN — ANTITOXIN — DOUBTS—CLAIMS TO PRIORITY—SUPPLIES—OYSTERS AND TYPHOID—NEW SOCIETIES—MEETING AT COLLEGE OF SURGEONS—THE PRESIDENCY—POISONING BY SOUP—PROFESSOR BURDON SANDERSON—DEATH OF LADY PAGET—ABUSES OF CLUBS—PAY-WARDS—ILKESTON OFFICERSHIP OF HEALTH—SIR JOSEPH FAYRER.

LONDON, January 4, 1895.

ACCORDING to custom, some honors have been distributed by the Queen at the opening of the New Year. Among them Dr. Russell Reynolds and Mr. Erichsen receive baronetcies. Your contemporaries are jubilant at this and loud in their praises of the favored recipients. It is, however, a very moderate appreciation to the profession which her Majesty's advisers have thus shown, for equal honors are showered on very different persons. Sir Russell Reynolds will undoubtedly maintain the honored position in the profession he has so long held. Yet, while the journals are emulating each other in his praise, I am old enough to remember that in his early days he was subjected to one of the most savage of journalistic onslaughts, and there were some who predicted that the doors of the College of Physicians would be closed against him. Now, there he is the President, and all delight to honor him. So much for above a quarter of a century's honorable conduct and the exemplification of high character. Still it is funny to meet some of the young bloods of the journals who think they know everything, but who have never heard the episode of their predecessors' blunder over Russell Reynolds.

Erichsen's surgery is as well known on your side of the Atlantic as here, and no doubt his successful career is familiar to most of your readers. This is now crowned with the distinction conferred, and everyone seems pleased with the selection for the surgical baronetcy.

Antitoxin still holds the field as the chief subject of medical conversation. The reports continue favorable, and there is in some quarters not a little enthusiasm. Still here and there cautious men are observed to be silent, or merely express a hope that the tuberculin disappointment may not be again experienced. One or two physicians I know are more than sceptical from clinical observations, but the enthusiasm of the majority silences criticism. When German authorities have fully discussed the matter, their differences will probably be repeated here. I learn from correspondence that O. Liebreich and several others are antagonistic to serum therapeutics *in toto*, Gottstein and E. Hahn are severe critics of the statistics published, while Baginsky and others hold to their clinical observations in proof of the value of the treatment. As the criticisms of foreign physicians become more widely known, I have no doubt not a few here who are unconvinced will become bold enough to speak out, and their doubts will have to be met. I may add that not a few, especially among the general practitioners, who have had no opportunity of using the serum, profess to hold themselves in a waiting attitude, and though apparently their hopes are not very high, of course they would rejoice at proofs of decisive success.

It is curious to notice that, as in the case of many discoveries, great or small, questions of priority arise. Professor Babes has put in a claim, on account of his immunizing animals to tetanus and hydrophobia, to the credit of originating serum therapy. He admits, however, Behring's claim as to diphtheria. On the other hand, Spain claims the honor on behalf of Professor Ferran, who is said to have immunized animals against diphtheria and published his results in April, 1890. This certainly looks like a serious claim, and if fully substantiated will redound to the honor of the Barcelona school. No one will begrudge Spain such a sign of her reawakening to scientific progress.

The supply of serum is still very short in London, but we are promised more at an early date. The demand will probably more than keep pace with the supply for many weeks to come. It is, therefore, perhaps wise of general practitioners to wait patiently for the results of full trials in hospitals.

We have an "oyster scare" on hand. It is alleged that the mollusk has conveyed, in several instances, typhoid fever to its consumer, and as this disease is more than usually prevalent just now among the well-to-do, the allegation is disquieting—especially considering the outbreak on your side of the water, of which I lately learned particulars from your columns.

More societies—there seems to be no class but desires to have one to itself. The qualified assistants and junior practitioners are now organizing themselves into a society. So too are the masseurs and masseuses, the occasion of the latter effort being the futile attempt of the *British Medical Journal* to persuade the police to follow up its revelations—which revealed—nothing.

An attempt is also being made to form a new society of members of the College of Surgeons. The defunct society did something to excite attention, but its methods were unsuccessful. The new society may avoid its errors, but at present does not look very strong, and I fear is hardly likely to cope with the selfishness of the Fellows, even while the latter's forces are as disunited as they showed themselves but yesterday.

January 12, 1895.

The meeting of the Fellows of the Royal College of Surgeons was, as I predicted, of very little interest to those outside the position of fellowship, and even those within seem to expect but slight results; for some time elapsed before the necessary quorum of thirty could be completed, and only sixteen in addition ultimately put in an appearance. The Council did not consider it desirable to test the opinion of Fellows except by motion at the half-yearly meetings, but an independent canvass had been taken as to the mode of electing the President. This canvass does not show any strong feeling on the matter, as out of 1,000 papers sent out only 468 were returned, and of these 50 were invalid. Among the returns 150 expressed satisfaction with things as they are and the others are willing to try some change. The proposal to request the Council to appoint a joint committee of councillors and other Fellows to consider the question of a new charter, was carried by twenty-two to fourteen, but the past affords little ground for anticipating compliance. It matters little, however, to the bulk of the profession who are only members, and if they obtain no voice in their college, the President will remain in fact president of the Council, but scarcely a president of the complete college.

I mentioned last week that oysters had been suspected here as well as on your side, of conveying the poison of typhoid fever. To-day the *British Medical Journal* publishes a communication from Sir W. Broadbent recording half a dozen cases in which he could trace the disease to no other probable source. An editorial remarks that on previous occasions a similar suspicion has been entertained—once at Dublin in 1890—and further, that in 1880 Sir C. Cameron brought before the annual meeting of the association cases of grave intestinal disorder apparently produced by oysters.

In connection with this subject other forms of food poisoning, whether due to ptomaïnes or other causes, must attract more attention. A painful case occurred in the Christmas week, when about one hundred persons in a village were simultaneously attacked by

purging, vomiting, and intense prostration. No cause could be traced except that the patients had partaken of soup distributed in charity some two days previously. The case has been carefully investigated by Professor B. Hill, medical officer of health, but analysis discovers no poison, and it is suggested that the soup may have been contaminated by down-draft from a ventilating pipe near the base of which it stood for the night.

Dr. Burdon Sanderson has been appointed to succeed Sir Henry Acland as Regius Professor of Medicine at Oxford. To some of the younger men in the profession he is so exclusively known as a physiologist that they may fancy it is putting the square man in the round hole. But their elders can enlighten them on the pathological and even clinical work done in earlier days by the professor. Still his reputation as a physiologist has cast every other qualification into the shade; so that we may well say that the scientific basis of medicine, rather than its practical application, is the justification of an appointment which will probably prove a success.

Only last year I congratulated Sir James Paget on his golden wedding. It seems but such a short time ago, and now I have to express the sympathy of all his brethren with the great loss he sustains in the death of his wife. Lady Paget died on the 7th inst., in the eightieth year of her age.

Ireland has taught us some strange lessons, among them the art of boycotting. We may yet see a shadow of this in our calling, but the gentler method will be tried first. Just now there is a revolt in Cork against some abuses of the club system. It is spoken of as a doctors' strike, though that is scarcely the correct term. The facts appear to be that men of good income, as much as £500 and upward, even to £1,000 per annum, have been mean enough to join the Odd Fellows and other clubs, and expect the doctors to attend them as if they were artisans. At last the doctors have had the courage to unite and refuse. Only one doctor in all Cork remains outside the movement to prove that the profession is not united. The others will perhaps know how to treat him. Certainly he deserves to be "sent to Coventry," as Englishmen express it, but Ireland may yet have a better lesson for us. There is, I learn, some tall talk among secretaries about setting up some new doctors in the city. If any young men disgrace their cloth so far as to fall into such a snare, they will deserve no pity if they find themselves to be outcasts of society.

The question of pay patients in hospitals is far from settled, and the honorary staffs who give them countenance will probably repent their folly. There are pay wards at Guy's, and a recent attempt to secure for them more support is giving offence. Even Guy's men may have a very unpleasant experience if they persist in conduct which will assuredly alienate some of their best friends. General practitioners will some day unite to treat all consultants who injure their position in the manner directed in the ethical code.

The medical officer of health of Ilkeston was too advanced a sanitarian for the town council. He had worked for £30 per annum, and later for £50. He is superseded by a member of this most respectable town council at £100. This scandal shows that generally some one will step into an underpaid office, and further, that to look for an appreciation of medical service as part of the reward of work is downright foolish. Better far would it be not to accept such underpaid appointments. Then the public might learn the value of services they now almost despise.

Sir Joseph Fayrer retires from the presidency of the India Office Medical Board, in accordance with the age rule. He carries with him the good-will of all his brethren, as well as the admiration of all who know the great services he has rendered in his long career. He is to be succeeded in the office by Brigade-Surgeon Lieutenant-Colonel W. R. Hooper, of the Indian Medical Service. We may hope the clumsiness of his title will open the eyes of the authorities to the absurdity of these compound designations.

HYPNOTISM AS AN EXCUSE FOR CRIME.

To the Editor of the Medical Record.

SIR: During the past year many persons have been accused, by perpetrators of different crimes, and also by others, some of whom are apparently mentally deficient, of hypnotizing them. And persons so accused have been imprisoned, and one has even been sentenced to death. Are we returning to the good old days of the Salem witchcraft? Some one is responsible for this state of public opinion, and it seems to me that if the medical profession is not directly responsible, it is negatively so, in not protesting against a thing which, although absurd and irrational, is full of such dangerous possibilities. Now, if hypnotism were but another name for that influence which all persons have over those mentally weaker than themselves, an influence which does and always has existed in every rational human being, then we must admit that hypnotism is the starting-point of a great many crimes. And while the person who uses his influence to cause or induce another to commit a crime is and always has been considered punishable, the person so influenced is held to be none the less so. But if by hypnotism is meant some particular power delegated to or vested in some particular person or persons, and that every other man in the universe does not have the same power in a greater or less degree, and if it is supposed that the person hypnotized does not act more or less of his own free will or have full knowledge of all his acts; or if he is supposed not to be able to distinguish between right and wrong, but is thought to be under the control of the will of the hypnotist, and sometimes to remain so, unless released by some "magical" words by the operator, then I must say that I do not believe a person was ever hypnotized. On the contrary it seems to me the veriest humbug. What will be the result of this hypnotic excuse if allowed to continue? There can be but one, you will see embezzlers, murderers, and criminals of all kinds plead "hypnotic control," and many an innocent person will suffer. The people look to the medical fraternity for light in such things, and they should have it in the shape of an emphatic denunciation by the profession and press. That those who believe in and practise hypnotic suggestion are for the most part honest I haven't a doubt. But I believe that they mistake that influence which is born in every person and which has existed since the beginning of the race for some wonderful power which they are pleased to call "hypnotism."

J. S. Horner, M.D.

West Pawlet, Vt.

CASTIGATION FOR CRIME.

To the Editor of the Medical Record.

SIR: In the editorial columns of the Medical Record for January 19th an article appears entitled, "The Threatened Revival of the Whipping-post," in which some of the statements made are so at variance with the facts in the case that I beg you to allow me the space to answer and comment upon them.

In the first place the subject for discussion at the meeting which is referred to at the Academy of Medicine, January 9th, was not the whipping-post, as every member of the Academy who received a notice of the meeting knows, and that phase of the subject was not alluded to in my paper except in connection with its present use in Delaware. Moreover, I distinctly stated that with my present light and opinions I did not favor it, but favored the system of corporal punishment

which had been used with so much success at Elmira. What Mr. Gerry and others may or may not have said that was not suggested in the paper of the evening as a subject for discussion, was a side issue, and should not be permitted to obscure the main issue. I may or may not be in favor of punishing criminals with a whip; I may or may not be in favor of a whipping-post, either public or private (which I am not and so stated with the utmost distinctness); the contention of the paper as I stated at the close of the discussion, was for the principle of corporal punishment for crime, especially beating and violently abusing women and children. If that principle is allowed the details can be worked out afterward.

Again, what can be the meaning and coherence of the following: "He (Mr. Gerry) thinks that the only thing these persons fear is pain, and that a flogging will accomplish far more than imprisonment, though the former is not to supplant it or supplement the latter." The next two sentences are still further confusing and lead one to wonder whence the information suggesting them could have been obtained: "One cannot easily conceive the mental complexion of a man who would prefer years of imprisonment to a single flogging in private (it being explicitly provided in the proposed bill that only a physician and the prison warden shall be present when the flogging is given). When we recall further that the criminals in question are notoriously anæsthetic, paying little heed to physical injuries that would be exquisitely painful to ordinary persons, and constantly receiving such injuries in bar-room brawls and street-fights, it becomes still more open to doubt whether the prospect of receiving "forty lashes at most" in private will deter one of them who, in a moment of passion or while intoxicated, is tempted to beat his wife or to commit rape or sodomy (these being the crimes chiefly had in mind by the advocates of the proposed measure)."

The matter becomes hopelessly involved and contradictory, unless we turn to Mr. Gerry's bill and see what it actually does recommend. Its words are as follows: "Whenever a male person shall be convicted of a felony consisting in or accompanied by the infliction of physical pain or suffering upon the person of another, the Court wherein such conviction is had may, in his discretion, in addition to the punishment now prescribed by law for such felony, direct the infliction of corporal punishment upon such convict, etc."

As to the further statement in your editorial that there is plausibility in the recommendation of one of the speakers at the meeting in question, that the whipping-post might accomplish the best results if used for the correction of minor delinquencies rather than major crimes, there is an inherent admission of the principle for which I am pleading, that corporal punishment as a penalty is justifiable and desirable.

It is not urged that such punishment be inflicted as "a vengeful application" as you seem to think is advocated, nor, on the other hand, can the retributive element to which you refer be entirely omitted; it is an element which necessarily enters, more or less, into the idea of all punishment, whatever its nature may be.

We can stand by the facts; corporal punishment checked garroting in England in six months; since it was discontinued at Elmira, fighting has increased among the inmates of the Reformatory fourfold, and other facts equally convincing could be furnished if necessary. Every man has a right, in this country at least, to his opinions, and to express them on proper occasions. I am willing to concede honesty of purpose to those who differ with me on the subject in question, but admitting the existence of wife-beating and similar forms of cruelty, and the inefficiency of present methods of treatment, if you refuse to inflict corporal punishment and suggest nothing as a substitute, you will admit that you are countenancing a grievous wrong and consenting to a great injustice.

To advocate an unpopular cause is not always easy or agreeable, but if it is right, or if one thinks it is right, other considerations should have very little weight.

ANDREW F. CURRIER, M.D.

NEW YORK, January 23, 1895.

THE LATE PROFESSOR LOOMIS AS A TEACHER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the obituary notice of Professor Alfred L. Loomis in to-day's MEDICAL RECORD, three of his characteristics are made justly and sufficiently prominent, namely: 1, his value to "many of the medical circles in which he was such a leading and active figure;" 2, his authorship of medical essays and text-books; and 3, his rare business qualifications. A fourth characteristic is not dwelt upon, perhaps because it was universally admitted and generally admired and applauded, namely, his excellence as a didactic lecturer.

Who, of the thousands of students who have enjoyed the pleasure, and I might say luxury, of having listened to his even, earnest, often eloquent, and the never-tiring flow of his never-flagging, clear-cut, clean, and withal plain and easily comprehended, oratory—who of all these men can have forgotten the lasting benefit they got from it? Who of all these men can have forgotten the magnetic fire of his eyes as he portrayed for them the substance of their future studies? And who of all his listeners have forgotten the firmness of his grip on the never-missing stick or pointer, as though it were a wand from fairyland to which he owed all the power and charm of his way of teaching?

Loomis was a most extraordinary didactic lecturer, and as such a great teacher. He never taught us any nonsense. And though his teaching was free from egotism, it was marked by a characteristic individuality. He used to say that he tried to find a peg for us to hang our hats on. Indeed, all his teaching, at his didactic lectures, at his clinics, and in his physical diagnosis classes, was marked by what Kant has called "a certain correct scientific taste," which guards against the excesses of a scramble for what is new, and confirms us to habits of safe and guarded judgments, besides developing a rational trustworthiness that comes from a full and circumspect experience.

An old German proverb says, "The Pope himself can do no more than his best." I am sure, all those who had the good fortune to get their first lessons of theoretical and practical medicine from the eloquent lips of Professor Alfred L. Loomis, will always think of him as having done his best for them, and as having done that best nobly, aye, beautifully too.

Yours very respectfully,

ADOLPH RUPP, M.D.

NEW YORK, January 26, 1895.

Examining Students in their Mother Tongue.—A new rule has lately been adopted at the University of Edinburgh, under which a candidate may be examined in his native language. Under this rule a Japanese medical student, not long since, had a paper sent him in his own language at a medical preliminary examination. For two years or more Japanese students entering Harvard University have been permitted to substitute Chinese for Greek in their preliminary examination.

New Sewerage System in Mexico.—Among the measures contemplated and under way for improving the sanitary condition of the City of Mexico, is one for increasing the rate of flow through the sewers. This project, the cost of which will be about $25,000, calls for the building of some twenty-five windmills in different parts of the city to rotate paddle-wheels in the sewers, and quicken the current to three feet per second.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 26, 1895.

	Cases.	Deaths.
Tuberculosis	91	120
Typhoid fever	10	5
Scarlet fever	102	11
Cerebro-spinal meningitis	3	4
Measles	65	4
Diphtheria	228	34
Small-pox	3	1

The Necessity of a Higher Estimation of Tooth and Mouth Hygiene.—At a meeting of the Berlin Society of International Medicine Dr. P. Ritter recently made an address on this subject. He pointed out how the mouth was the starting-point and breeding-place of germs. How he had frequently seen workmen and workwomen lose their places on account of want of the incisor teeth or foul breath. Continuous toothache frequently led steady men to the brandy bottle for the relief of pain. In pregnancy the necessity for attention to the mouth and teeth was especially great, as women at these times so often suffered from tooth- and face-ache. Probably the cause lay in excessive nausea present leading them to neglect the care of their teeth, so that the secretions became acid and favored caries. Women should be recommended to brush their teeth three times a day after the third month, using some astringent fluid and an alkaline tooth powder, and a moderately hard brush. On the basis of many years' experience, he held the following to be demanded: The appointment of experienced dentists to examine the mouths of all school children at stated intervals, the parents to be informed of the result of the examination, and left to have the treatment required carried out privately or through institutions. The appointment of dentists for the poor. Delivery of addresses in the Volksschulen on the importance of the masticatory apparatus and the toilet of the mouth. Dissemination of printed instructions on the toilet of the mouth to the whole of the poor population.

Grand Old Men of Medicine.—Medical men have, as statistics show, a shorter average lease of life than members of the other liberal professions. The late Dr. Bisset Hawkins's exceptional span of years is discounted to some extent by the fact that for half a century he had not been engaged in professional work; it is not probable that at any period of his career he was ever heavily burdened with the cares of active practice or that he felt the stress of the struggle for existence. There are, however, a few instances of longevity in working members of the profession which go some way to bring our average of life up to a fairly respectable level. Not to mention Dr. G. Paris, formerly physician to Louis Philippe, who has just passed away at the age of ninety-three, the medical profession of Valencia, in Spain, has been celebrating the birthday of the oldest member among them, Dr. Salvador Lopez Català, who completed his ninety-first year on November 9th. Dr. Català was in active practice till less than four years ago. An American paper states that Dr. Hiram Corson, of Montgomery County, Pa., is the oldest practitioner in the United States who is still in harness. He is now ninety, and he has been in practice since 1827. Dr. Corson is still in excellent health, and preserves his powers of body and mind to a remarkable degree. He is now writing his personal recollections of the anti-slavery movement, in which he took an active part, having assisted many a runaway slave to escape by the "underground railroad." The New York Medical Record, however, enters a claim for what it calls the long-distance championship on behalf of Dr. Hull Allen, of Milford, Ct., who was born on May 16, 1798, and is now consequently well on in his ninety-seventh year. We have older practitioners than either of these American "champions" in this effete old world in the persons of Dr. Boisy, of Havre, who, we believe, was in practice, and could even go upstairs to see his patients in their bed-rooms, after he had completed his century of life; and of our own, Mr. W. Salmon, of Penllyne Court, Glamorgan, who became a Member of the Royal College of Surgeons in 1809, and is now in his one hundred and fourth year. To all these grand old men of medicine we wish a happy New Year, and many of them.—*Lancet.*

A Homœopathic Medical College in Court.—In the suit in equity filed by the Washington Homœopathic Medical Society, asking for an injunction against the National Homœopathic Medical College, the plaintiff on October 9th filed an amendment and supplemental bill. After reciting the fact of the filing of the original bill the plaintiff states that the defendants were served with process, and although they made emphatic declarations through the public press of their desire to be heard, and to vindicate themselves, they have never answered the bill, and have sought to delay their answer by raising a technical objection to the form of the summons, insisting that the District of Columbia corporation is entitled to sixty days within which to answer, and the defendants have never made the slightest effort to bring the cause to a hearing. In defiance of the outraged sentiment of all the reputable physicians of the District of Columbia, the bill goes on to say, the defendants, or one of them, have, during the past year, pretended to conduct a homœopathic medical college in which they profess to give instruction in the science of medicine. The plaintiff claims that the defendants have made no addition to their equipment nor any improvement in the *personnel* and standing of their so-called faculty; that they succeeded by unscrupulous advertisement in deluding into attendance some persons honestly desirous of obtaining a medical education; that in at least one case it has granted a diploma to a person who has actually studied medicine for not exceeding seven months in the alleged college; that in another case it has granted a diploma to a person who was forced out of a recognized and respectable medical school because of absolute inability to pass any examination, and that the defendants, for the purpose of attracting students, have continued to advertise, as members of the faculty, the names of physicians who had previously positively refused to be identified with the college or to allow their names to be used in connection with it. The court is asked that the defendants, pending the suit and perpetually, may be enjoined from conducting said alleged college.

A New Method for the Treatment of Wounds.—We have had the opportunity, says the *Medical Press*, of studying the new treatment of wounds devised by Dr. George Stoker, and find it to start from the original idea of using the stimulating effects of oxygen on a granulating surface; the *primâ facie* idea not being one of antisepticism. The method consists in keeping the part of the limb on which the wound or ulcer is present in an air-tight wooden box, the upper part of which is glass, and which, at the extremity where the limb enters, is closed by an India-rubber funnel fitting to the limb and kept *in situ* by a turn of a Martin's bandage. To this box are connected three India-rubber tubes about three-sixteenths of an inch in diameter. Through the first, the attendant at stated intervals pumps in warm air by a plan closely resembling that used in a Higginson syringe, the warm air, however, passing through two bottles, one containing Condy's fluid and the other lime-water, while in a glass portion of the

tube itself it traverses menthol and medicated wool. Through the second tube the oxygen is carried in. The third tube is utilized to carry off any impure air into a bottle of Condy's fluid. The treatment is commenced by pumping in the warm air for about three minutes; this is done first, as it is found that the pure oxygen is too stimulating. Next the oxygen is turned on, and this is continued at a very low pressure, and not even shut off when the warm air is pumped in again at intervals of a quarter of an hour; pain, which is increased by dryness, is relieved by this method. The ulcerating surface is dressed twice a day with dilute warm boracic solution, with which it is gently syringed and the scabs removed, the box, of course, being taken away during the dressing. The treatment necessitates the constant attention of a nurse, who has to a certain extent to be specially trained. The cost is about one farthing per hour, but this probably, Dr. Stoker asserts, could be considerably reduced. Through the courtesy of Dr. Stoker we were enabled to see a patient under treatment; the subject certainly was not a favorable one. The ulceration, which was probably specific, half encircled the right leg of a middle-aged woman, rather stout, and suffering in addition from chronic eczema and heart disease; the ulceration had been treated for a considerable period in the ordinary manner, but without success. Under the new treatment the ulcerating surface looked clean, the granulations were healthy, and Dr. Stoker hopes soon to see it entirely healed.

Drunkenness in Russia.—The Governor of St. Petersburg is aroused upon the increasing prevalence of drunkenness in that city, and has just ordered that the names and addresses of all persons found intoxicated in the streets, regardless of rank or sex, shall be posted in certain public places in the city and also printed in the *Official Gazette*. Fifty years ago they were compelled to sweep the streets for a number of hours, under the eye of the police.

Wants to Study Medicine.—The following letter was placed in the hands of the *Atlanta Medical and Surgical Journal* recently. The applicant is too late. The time has now passed when doctors will be made of such material:

"Dr. ——— dane Sir please send us a Catlog of the ——— College We hav bin Contemplating entring College this fall Some Wheare and if you Will give us as short a time as We Can get eny Whear and as Cheep pobly we Will enter yoars College but if We Can dow Beter Some Whea els We Will do so We air pooar in this worlds goods We think yoar tearms air tow Meny for us as we air a geting up in years We Caint spend so mutch time.

"adress ———."

Reasons Why the Abdominal Bandage Should not be Used After Labor.—1. It is unnatural. 2. It is liable to become soiled and hence a harbor for microbes. 3. It increases irritation of the tired and overworked abdominal organs. 4. It interferes with the necessity of frequent antiseptic ablutions. 5. It is difficult to keep in place, unless made to order. 6. It binds down the weak uterus and promotes the return of a displacement or a subinvolution. 7. It predisposes to puerperal and cerebro-spinal centres. 8. It increases rather than diminishes the danger of post-partum hemorrhage. 9. It prevents digestion, assimilation, and intestinal peristalsis and tends to bladder trouble. 10. It is unsafe to apply it by any one except the accoucheur or an experienced nurse.—*Southern Medical Record.*

The Serum Treatment of Diphtheria is to be tested on a large scale in France, the budget committee of the Chamber of Deputies having resolved upon an appropriation of $20,000 with which to test the efficacy of the new remedy.

The Berlin Police and Quack Medicines.—The Berlin police have adopted a neat way of stopping the sale of poisonous preparations without proceeding against the advertisers with the machinery of the law. They insert in each newspaper an advertisement to the effect that they have caused an analysis to be made, and that the article advertised is composed of so-and-so, and its intrinsic value is so much. A case in point was a cosmetic for the complexion (the composition of which we have already exposed in these columns), costing one halfpenny and retailing at half a guinea. The police, it appears, do not interfere in the case of preparations into which poison does not enter. They leave the buyer to his own resources.

A Sanitary Coffin is a term with a curious sound, for most people think they are rid of hygeia after death. An Englishman, however, has patented a sanitary coffin, which really seems to have merits. The interior of the coffin, including the lid, is lined with a 3-inch cushion stuffed with caustic and antiseptic powder. When the body is fastened in the coffin it is tightly packed in an air-tight padding, which not only absorbs and neutralizes all the products of decomposition, but also eventually destroys the tissues themselves. It would be an obvious advantage to enclose the body of any person who had previously died of an infectious disease in a receptacle of this kind, especially in view of the almost universal practice of allowing the bodies of the dead to remain for several days in the houses of the living.

Anatomical Mnemonics.—In the *International Medical Magazine* for November Dr. Henry W. Cattell, of Pennsylvania, discusses this subject in a paper which will be read with interest by students and those engaged in anatomical teaching. In the first place he quotes the well-known but nonsensical lines—

"On old Olympian's piney top,
A fat-armed girl prepares a hop."

This, it may be explained, refers to the cranial nerves. "On equals olfactory; Old, optic; Olympian's, ocular motor; Piney, pathetic; Top, trigeminal; A, abducent; Fat, facial, and so forth." The "tip" for the structures passing over the inner ankle he gives as "Timothy doth vex all very nervous people;" but the one most commonly in use for the same purpose in his country is: "The four virgins at Vei never felt love's power." Again, the situation of the valves of the heart, he says, may be readily remembered by the following words: Martin Luther, The Reformer; the mitral, of course, being on the *l*eft side and the tricuspid on the *r*ight. To give on more "tip," the word "same" comes in useful for remembering the power possessed by the spinal nerves—the Sensory nerves being the *a*fferent, while the *m*otor are the *e*fferent. We quite agree with the author that the literature upon this subject is meagre, and in view of the fact that the utility of such aids as here referred to is unquestionable, it would be only wise that the future editions of text-books on anatomy should contain some allusion to them.

The Buccilingual Fragment.—For many years it has appeared to the general public that this institution, founded by a man like Ezra Cornell and largely saved by a man like Henry W. Sage, has been conducted by and in the interests of a gigantic sporting fraternity, comprising about one-fourth of all the students. Among them are good men and earnest scholars. Among them also are evidently some who accept the doctrine recently enunciated by the President of Princeton: "I appreciate scholarship as much as anyone, but realize the fact that all of those who go to college do not desire to become fine scholars." From their ostensible vocation, study, they find time for numerous avocations, more or less laudable in themselves, but seldom conducive to scholarship. They are preeminently the patrons of inter-collegiate athletics, not

so much by playing themselves as by attending games and, until perhaps very recently, betting upon the results. They commonly have plenty of money, not often self-acquired. They contribute liberally to athletic funds; they also, however, demand that others should do the same. They clamor for aid from the antipathetic in paying the salary of a professional trainer, and in the same term spend what would pay that salary many times over for the luxury of witnessing games in distant cities. They convert the college papers into sporting gazettes. They claim to represent the institution before the public. They assume to constitute the "student body," whereas they are merely a buccilingual fragment thereof.—PROFESSOR B. G. WILDER, of Cornell University.

There is a Movement on foot to present a testimonial to Dr. John S. Billings, on the occasion of the completion of the Index Catalogue of the Library of the Surgeon-General's Office, United States Army. Dr. Billings has been most unremitting in this work, and it is considered all the world over as the most complete and valuable reference work of its kind in any language.—*Maryland Medical Journal.*

A Story of a Halfpenny.—The story in "Pickwick" of the boy who swallowed a bead necklace and rattled audibly, even when wrapped in a watchman's coat, is fairly equalled by an account that has just reached us of another boy, who swallowed a halfpenny eighteen months ago. In spite of diligent search no trace of the coin could be found, and the boy himself gave no indication of having withdrawn a coin of the realm from circulation. He remained in good health, we are told, until a few days ago, when he had an attack of pneumonia, and during a fit of vomiting the coin reappeared. If the boy had not suffered in the interval, the coin had; it was "very green," and the "engraving and date were very much worn." This is unfortunate, as it leaves an element of uncertainty in the case.—*The Lancet.*

The Power of Insurance Companies Over the Bodies of Policy-holders.—Whether insurance companies have the right to order post-mortem examinations of the bodies of the insured is considered at length in a decision of the Superior Court, General Term, as the result of which the court gives a new trial in the action brought by Charles Wehle, as executor of Lawyer Henry Wehle, to recover $10,000 from the United States Accident Association on a policy for that amount on the life of Henry Wehle, who was found drowned at Rockaway, on September 4, 1893. When the case came to trial it was dismissed on proof that a demand of the insurance company to make an examination of the body after the burial had been denied by the representatives of Mr. Wehle. The court decides that the insurance companies have no right to demand exhumation unless the contract calls for such examination in unequivocal terms.

Vital Statistics of New York City for 1894 show the lowest death-rate for eighty years, viz.: 21.05 per 1,000. This is calculated on an estimated population of 1,957,452, and compares with recent years as follows:

1888	25.23	1891	24.73
1889	24.07	1892	24.26
1890	23.51	1893	23.52

The grip epidemic accounts for the increase in 1891 and 1892. The improvement in sanitary conditions and in sanitation has been regular and steady. Here are some other comparative statistics of the year:

	1894.	1893.
Deaths	41,212	44,486
Births	55,643	51,529
Still-births	3,571	3,645
Marriages	17,388	16,144
Deaths in tenements	26,149	28,373

Hospital Sunday and Hospital Extension.—Last Sunday was "Hospital Sunday," it and the preceding day being devoted to collections for all the city hospitals—except the Presbyterian. The Hospital Saturday and Sunday Association has prepared some facts and figures relative to the hospitals of the city, covering the period 1884–94, a period in which the association has done its best work. Ten years ago three-fourths of all hospital care was provided by the municipality out of the general tax levy, and charity hospital work was thought to be possible only through endowments obtained through testamentary bequests. The association prides itself on having since then brought about a reversal from this dependence on "the duty of the dead," changing the preponderance of support to the shoulders of the living. The following comparisons will show some of the results:

	Beds in 1884.	Beds in 1894.
General hospitals	1,625	2,711
For women and children	556	1,035
For the eye, ear, and throat	152	207
For skin and cancer	30	190
For convalescents	20	119
For consumptives and incurables	170	1.010
Totals	2,553	5,272

	Total expenses.	From city.	From invested funds.	From paying patients.	From all other sources.
1884....	$947,404	$181,674	$295,000	$196,103	$274,035
1894....	1,840,393	151,102	481,504	366,956	840,831

An interesting fact, showing the interest of all classes of people in hospitals, is the establishment in this city, within recent years, of a hospital by the Polish and Russian Jews, and two Italian hospitals by residents from that nation. This beginning toward self-helpfulness and departure of indifference on the part of these people the association regards as especially gratifying.

Grave Robberies in Indianapolis.—The papers state that parties in search of a body stolen from Greenwood Cemetery, near Indianapolis, traced it to an unoccupied house which is being fitted up for the Indiana Medical College, and in the cellar they found twenty or more bodies. They had been brought in from country cemeteries within two or three days. The Indiana Medical College was burned several months ago, and the bodies were being collected preparatory to opening the institution in the new quarters.

Professor B. J. Alexander, of Cottner University, and D. L. Mehan and J. A. Burford, were recently held for trial in Lincoln, Neb., on a charge of grave robbery.

Library Books and Infectious Disease.—The conveyance of infection by means of books is so obvious a possibility that the greatest care should be taken to prevent its occurrence. This matter has lately been discussed in Edinburgh, where we learn a rule is in operation with the object of minimizing the danger alluded to. Rule IV., of the Free Library by-laws, provides for the cancelling of reader's tickets in case of infectious disease. Every day the library authorities receive from the medical officer of health a return of cases of infection, and steps are taken at once to ascertain if books from the library are in those houses. Books from infected houses are removed by the officers of the Public Health Department, and properly disinfected or destroyed. Whenever any book has been in a house infected by small-pox, it has been burnt on its return to the library.—*British Medical Journal.*

A Woman on Bicycle-riding for Women.—At the meeting of the Société de Médecine Publique, Mme. Gaches-Sarrante read a paper on the utility of the bicycle for women. For the last three years she has been practising this masculine exercise to the great benefit of her health. Alluding to the costume to be adopted, she insisted on the fatigue produced by the corset; the least up-hill provokes oppression from the stricture of

the thorax. As regards the genital organs, all acute inflammation should forbid the use of the machine, but where the lesions were chronic, moderate exercise might be permitted, and even enjoined; in any case, riding is much less fatiguing than standing or walking. Salpingitis or chronic salpingo-ovaritis do not constitute a counter-indication, and in cases of chronic peri-uterine inflammation the bicyclette can replace with advantage the Swedish method of massage. Bicycling exercises, consequently, a healthy influence on the physical nature of women; they sleep better, digest better, and their chest expands so as to find it necessary after a short time to enlarge the corsage of their robes. Mme. Sarrante concluded by drawing a vivid picture of the moral *rôle* of the bicyclette, the only physical exercise that husband and wife can take together.

Death in the Discharge of Duty.—We lately recorded the death of another member of the medical profession in practice near this city, which was due to an infectious disease caught from a patient upon whom he was in attendance. We have recently spoken of the constant recurrence of such examples of professional self-sacrifice, and of the large number of them every year. A foreign writer now in this country groans over his discovery that "very few Americans have any ideal in life." But there are certainly a good many American doctors who have a high ideal of duty.—*The Sun.*

Anti-vivisectionists do not Hunt or Fish.—Every anti-vivisectionist condemns the sports mentioned (hunting and fishing) and is working against them; and every well-informed person knows that both continents abound in vivisectional laboratories, in colleges, universities, and schools of all descriptions where the most awful experiments are conducted without anæsthetics, upon live animals—according to the published records of the vivisectors.—*Anti-vivisection.*

A Medical Examining Board for Georgia.—All things point at present toward the passage of a bill before the legislative body now in session, providing for a Board of Examiners for this State. The bill as now offered provides for three boards, one each for the different systems of medicine. While the editor cannot appreciate the necessity for more than one board, with representatives from the homœopathic and eclectic schools in addition to the regular schools, still if this is the only means whereby such legislation can be procured, then it is better to have this and keep its standard high than to be without any protection whatever from quacks and charlatans. We trust the factions which contended so vigorously against the previous bill are united on this one, and will push forward its passage as speedily as possible.—*Atlanta Clinic.*

New Remedies.—Among the new remedies announced in the *Therapeut. Bl.*, the first named is neurodine, acetyl-p-oxyphenyburethan, a colorless and odorless crystal, scarcely soluble in cold, but readily so in boiling, water. According to the investigations of V. Mering neurodine possesses no toxic properties, but it is an antipyretic. After 0.5 grain neurodine per dose per day, the temperature sank 2.5° to 3°C. gradually, often with free perspiration. The lowest point was reached in from three to four hours; the temperature then gradually rose. Neither cyanosis, vomiting, nor symptoms of collapse were observed after its use. As an antineuralgic it may be used with success in doses of from 1 gm. to 1½ gm. Thermodine, acetyl-p-æthoxyphenylurethan comes next in the list, also an odorless crystal, with difficulty soluble in cold water, and only slightly soluble in hot. According to V. Mering it is an excellent antipyretic. With doses of 0.5 of thermodine the temperature sank 2.5° to 3° C. It was found serviceable in influenza, the temperature fell, the headache and pains in the limbs disappeared. Generally speaking, the dose is 0.5 to 0.7 gm. It also possesses antineuralgic properties, but in this respect is inferior to neurodine. Lycetol, dimethylpiperazine is a third. According to Wiltzack we possess in lycetol a tolerably inexpensive remedy, that appears to be at least as useful in the treatment of the uric acid diathesis as piperazine. After the employment of lycetol Wiltzack observed: 1. A considerable increase of diuresis with diminished specific gravity of the urine. 2. The medicine was well borne without any disturbance of the general system, even when its use was continued for a lengthened period. 3. Cessation of the symptoms in gout, non-occurrence of an otherwise regularly recurring typical gouty attack, and considerable diminution of gravel when the medicine was persevered with.

The Southern Illinois Medical Association held its twentieth semi-annual session at Du Quoin, Ill., Thursday and Friday, November 15 and 16, 1894.

Work of the United States Bureau of Animal Industry.—The scientific inquiries of the Bureau of Animal Industry have progressed steadily during the year. Much tuberculin and mallein have been furnished to State authorities for use in the agricultural colleges and experiment stations for the treatment of tuberculosis and glanders. Quite recently this department has published the results of its investigations of bovine tuberculosis, and its researches will be vigorously continued. Certain herds in the District of Columbia will be thoroughly inspected, and will probably supply adequate scope for the department to intelligently prosecute its scientific work and furnish sufficient material for purposes of illustration, description, and definition. The sterilization of milk suspected of containing the bacilli of tuberculosis has been during the year very thoroughly explained in a leaflet by Dr. D. E. Salmon, the chief of the bureau, and given general circulation throughout the country.—*President's Message.*

BOOKS RECEIVED.

THE URIC ACID DIATHESIS, GOUT, SAND AND GRAVEL. By Dr. F. Levison. 12mo. Price, 3*s.* 6*d.* 152 pages. Published by Cassell & Co., Ltd., London.

MANUAL OF PRACTICAL MORBID ANATOMY. By Drs. H. D. Rolleston and A. A. Kanthack. 12mo, 240 pages. Price, $1.60. Published by Macmillan & Co., New York.

ESSENTIALS OF HOMŒOPATHIC THERAPEUTICS; BEING A QUIZ COMPEND, ETC. By Dr. W. A. Dewey. 8vo, 266 pages. Price, $1.58. Published by Boericke & Tafel.

THE DYNAMICS OF LIFE. By Dr. W. R. Gowers. 12mo, 70 pages. Price, 75 cents. Published by P. Blakiston, Son & Co., Philadelphia, Pa.

SYLLABUS OF GYNECOLOGY. By Dr. J. W. Long. 12mo. 133 pages. Price, $1.00. Published by W. B. Saunders, Philadelphia, Pa.

NOTES ON THE NEWER REMEDIES. By Dr. David Crena. 8vo, 253 pages. Price, $1.25. Published by W. B. Saunders, Philadelphia, Pa.

HELPS IN SICKNESS AND TO HEALTH. By Henry C. Burdett. 8vo, 471 pages. Illustrated. Price, 5*s.* Published by The Scientific Press, Ltd., London.

HYPNOTISM: HOW IT IS DONE; ITS USES AND DANGERS. By Dr. James R. Cocke. 8vo, 373 pages. Published by the Arena Publishing Co., Boston, Mass.

BLOOD SERUM THERAPY AND ANTITOXINES. By Dr. George E. Kreiger. 8vo, 69 pages. Illustrated. Published by E. H. Colegrove & Co., Chicago, Ill.

THE TRANSACTIONS OF THE EDINBURGH OBSTETRICAL SOCIETY. Session 1893–1894. Published by Oliver & Boyd, Edinburgh.

THE PREVENTION OF EPIDEMICS, AND ISOLATION HOSPITALS. By Dr. Roger McNeill. 8vo, 247 pages. Illustrated. Price, $4.00. Published by P. Blakiston, Son & Co., Philadelphia, Pa.

LABORATORY GUIDE FOR THE BACTERIOLOGIST. By Langdon Frothingham, M.D.V. Price, 75 cents. Published by W. B. Saunders, Philadelphia, Pa.

A MANUAL OF ORGANIC MATERIA MEDICA AND PHARMACOGNOSY. By Lucius E. Sayre. 8vo, 555 pages. Illustrated. Price, $4.50. Published by P. Blakiston, Son & Co. Philadelphia, Pa.

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NEPHROPTOSIS: ITS CAUSATION, TREATMENT, AND ITS RELATION TO MANY OBSCURE SYMPTOMS IN WOMEN, WITH REPORT OF SEVENTEEN CASES.

BY WILLIAM W. STEWART, M.D.,

COLUMBUS, GA.

THESE cases are far more frequently met with in the routine work, not only of the gynecologist, but in the daily calls of the general practitioner, than many suppose.

Lindner, of Germany, in his work "Anatomy, Etiology, and Diagnosis of Floating Kidney," states emphatically, after a large number of examinations of women from all classes, that every fifth or sixth woman has movable or floating kidney well developed.

Edebohls, in a paper read before the New York Academy of Medicine, states that one in every six women consulting a gynecologist suffers with nephroptosis.

Dr. Mathieu, in a paper read before the Société Médicale des Hôpitaux, stated that he examined three hundred and six women who were admitted into the hospital for other complaints, and found the condition known as movable kidney in forty-five. He also examined forty-six women suffering from severe dyspepsia, and found the kidney abnormally movable in thirty-two. He tabulates upon the results of his examinations as follows: "Nephroptosis is found in patients between fifteen and twenty years, in from twelve to thirteen per cent. Between twenty and twenty-five, in from twenty-two to twenty-three per cent.; between twenty-five and fifty years of age, forty per cent.; and between fifty and seventy-five years, twenty-five per cent."

In women who have not borne children the condition was far less frequent than in those who had; thus, in one hundred and four multiparæ it was found only in $\frac{64}{100}$ per cent., while in those who had borne one or more children the percentage rose to $33\frac{80}{100}$.

This condition is one peculiar to women, as shown by the following figures:

Roberts states that out of 70 cases coming under his observation, 61 occurred in women and 9 in men. Ebstein, that of 96 cases, 82 were females, 14 males. Dickinson, that out of 12 cases, 10 females, 2 men.

This condition may be congenital or acquired, but is usually acquired, appearing in the child-bearing period. The congenital form is the result of a malposition or formation of the peritoneum; in these instances the kidney is often completely surrounded by peritoneum which forms a pedicle, with ureter blood-vessels and nerves, the kidney having a complete mesonephron. When the condition is congenital, it usually appears as a floating kidney, and is often associated with malformations. Of this variety, it can truly be said that the kidney can be found in all portions of the abdominal cavity, often shifting its place.

The acquired is most commonly detected after childbirth, and especially in those women whom one often meets and in whom there is a general relaxed condition of the muscular system, who most frequently have uterine and other associated visceral displacements.

As to the causation of the acquired forms, childbirth stands first. After this come tight lacing, falls, acute inflammatory conditions of the kidney, which increase its size, thereby distending its peritoneal covering, followed by rapid shrinkage of the organ, thus leaving the kidney a free space in which it may move, by its mobility gradually enlarging the sac thus formed. Acute hydronephrosis caused by stone or gravel slowly passing through the ureter, produced by the rapid enlargement and quick shrinkage of the kidney by which it is loosened from its attachments. Rapid absorption of the fat surrounding the kidney as is produced by wasting diseases, quite often leaving unoccupied space allowing marked mobility. Lifting of heavy weights, by which the liver is forced downward and presses upon right kidney; especially is this prone to occur when a tight corset is worn.

The right kidney is much oftener displaced than the left. Of 91 cases reported by Ebstein, the right kidney was affected in 65, the left in 14, and both in 12.

Tuffin, in an article published in *La Semaine Médicale*, Paris, September 16, 1892, very aptly classifies this condition clinically into three forms; viz., the painful, the dyspeptic, and neurasthenic. This classification, though good, can rarely be found distinctly exemplified, as each case presents more or less the symptoms of all. But, yet one of these usually predominates and thus gives the truest and most convenient form of distinctive classification under which the symptoms can most clearly be portrayed.

Painful Nephroptosis.—Patient usually complains of inability to walk or ride long distances on account of severe aching pain in back and abdomen, often associated with dragging and a feeling as if a body were shifting in position on change of posture. Pain is also invariably referred to bladder, urethra, labia majora, and inner side of thigh to knee; pain in bladder and urethra at times so constant and severe, and associated with frequent micturition, that one might be led to believe the existence of a urethritis and cystitis, did not the urine on examination prove normal in every respect. Pain is often complained of in finger- and wrist-joints, and an almost constant pain in top of head similar to that experienced by patients suffering with metritis. All these symptoms are much increased in severity during menstrual period and under excitement. There may be added to this acute attacks of renal pain, caused in some instances by acute hydronephrosis, and in others by a twisting of the pedicle, formed as it is by nerves and blood-vessels—the twisting causing a direct infringement upon the nerve-trunks; or, an acute congestion brought about by an obliteration of the flaccid walls of the veins, while the stiff and patulous arteries continue to flood and swell the kidney with blood.

Dyspeptic Nephroptosis.—A patient thus affected usually presents a forlorn picture of chronic dyspepsia with marked tendencies to melancholia. Stomach and duodenum usually dilated, pain more or less constantly felt over region of bowels, with frequent attacks of nausea and vomiting. Mouth frequently ulcerated, gums spongy, bleeding on slight pressure. Tongue red, sore, and at times ulcerated. Alternating attacks of constipation and diarrhœa. The extent of these symptoms, of course, largely depends upon the length of time the condition has existed and amount of obstruction produced by the dislocated kidney.

The theory of dilatation of stomach associated with

nephroptosis, was first brought forward by Bartel. He claims that in tight-lacing the kidney is often pushed down, and a descending portion of the duodenum is pressed upon thereby, thus often obstructing or making difficult the outflow of the stomach.

Glénard, on the other hand, rather considers the nephroptosis as an associated condition, and points out the prolapse of various organs as the cause of nervous dyspepsia. According to him, the hepatic flexure of the colon, the transverse colon, and the stomach sink in position. The enteroptosis thus ocurring may produce a kinking of the duodenum caused by its false relation to the stomach. The stomach contents will then with difficulty pass. With this condition he considers a nephroptosis but a continuation of the tendency to the displaced and false relation of organs.

Dr. Mathieu discussed this subject before the French Medical Society, which discussion was reported in *Le Progrès Médical*, in which paper he cited many cases in whom there had been severe attacks of vomiting, in some cases ten or twelve times a day for a fortnight or more, strongly resembling in some instances the gastric crises of locomotor ataxia. Associated with this vomiting were severe abdominal pains.

These views were endorsed and concurred in by Doctors Legendre and Rendu.

Neurasthenic Nephroptosis.—This type of cases is less marked than either of the foregoing, and is more seldom seen. The manifestations are usually in the form of profound hysteria, hypochondriasis, and melancholia, all of which symptoms are quickly benefited, and in some instances permanently relieved, by appropriate treatment.

Diagnosis.—This can usually be definitely made by carefully questioning patient as to symptoms, not only as to pain in region of kidney, but as to referred pains to other organs and regions of body which are coupled closely by direct nerve communication, or are so affected through the sympathetic. With this history and a careful physical examination made with patient on her back, with knees flexed, then by pressing backward close up underneath last rib firmly and slowly till muscular resistance is overcome, the kidney, in people who are not too fat, can be easily felt and its mobility determined.

If none be felt with patient upon back, a change of position to side, followed by deep inspiration, will usually elicit any freedom of movement that may exist.

Pressure upon such a kidney not infrequently calls forth a nauseating, sickening feeling peculiar to this condition. The feel of the kidney, when located and movable, is much like an ovary or testicle in the scrotum, in the peculiar quickness with which it slips from beneath the fingers.

Differential Diagnosis.—This condition has to be differentiated from wandering spleen ; new-growths of the mesentery ; tumors of the head of the pancreas ; tubercular conditions of omentum ; and lastly, and by far the most difficult condition requiring differentiation, diseases of the gall-bladder.

As to the differentiation between nephroptosis and all the foregoing pathological changes except the last, there can be rarely much trouble ; for the history, coupled with careful physical examination, will usually clear up all doubt that may exist. As to the last named, a differentiation between right nephroptosis with hydronephrosis and distended gall-bladder, there often arise many questionable points, I myself having had one patient having both conditions existing alternately in several successive seizures, extending over a period of three months. In such an instance it will frequently resolve itself into a question to be determined only by exploratory incision.

In many instances where gall-stones obstruct the cystic duct, giving rise to large tumors of the gall-bladder, there never at any time exist the slightest jaundice or trace of bile in the urine, as is illustrated by the histories of Cases Nos. II., III., VII., and VIII., reported and operated on by Dr. J. B. Murphy, MEDICAL RECORD, January 20, 1894, pages 72, 73, and 74.

On the other hand, jaundice can be caused by a dislocated or hydronephrotic kidney. Such a case is reported in the *British Medical Journal*, January 29, 1876. In this case jaundice was produced by the compression of the common duct by a dislocated kidney which was in contact with the transverse fissure of the liver and adherent to the duodenum. Thus it may be seen that with either condition we may or may not have jaundice. Therefore jaundice has no absolute diagnostic value.

At the time of the acute attack the tumor is usually too tender for palpation to be of much use in diagnosis. And when all soreness subsides and palpation can be used as a thorough means of investigation, all tumor may have entirely disappeared ; which is sure to be the case alike in hydronephrosis caused by occlusion of the ureter by a small stone, and in a distended gall-bladder with obstructed cystic duct. In such an instance the finding of a nephroptosis only points to the kidney as the possible seat of trouble, and does not exclude the possibility of there having been a distended gall-bladder. In both instances the acute attacks are associated with persistent nausea and a temperature variable in intensity alike in both. The sudden filling of the bladder and evacuation of a large quantity of urine, blood-stained or foul in odor, or in some instances free of all odor and cloudy in color, when associated with disappearance of pain and tumor, can be deemed conclusive evidence of right hydronephrosis.

The urine being stained with bile is, on the other hand, not distinctive of occlusion of the cystic duct *per se*, as is shown by report of case in *British Medical Journal*, January 29, 1876. In such a case the differential diagnosis can only be made out by the presence or absence of characteristic discharges of urine attended by relief, as cited above.

Treatment.—This can be divided into surgical and mechanical.

The surgical consists in stitching the kidney to the muscles of the back. The surgical procedure is too ably described in all recent surgical works and monographs on this subject, to require further mention here, and is only required in those cases where marked mobility of the kidney exists uncontrollable by a properly fitting bandage.

Mechanical Treatment.—This, by far the safest and most satisfactory treatment, consists in a carefully fitted abdominal belt made of silk elastic with perineal straps to retain it in position. It may be found necessary in some instances to use, in addition to belt, a pad of horse-hair or wool covered with kid, to be placed just below the kidney.

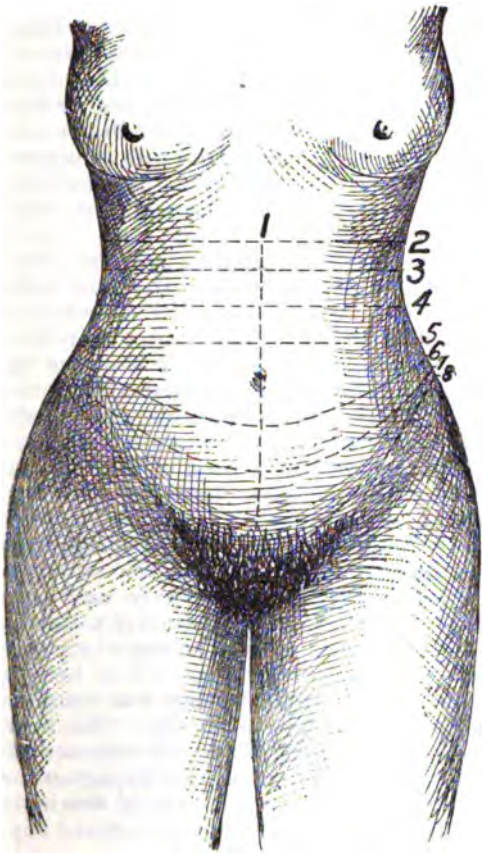
One reason for the unsatisfactory results obtained by the use of bandages, reported by some observers, I feel sure, consists in the fact that the belts are in the first instance not properly fitted.

To secure the kidney in position great care is required in taking proper measurements from which the belt shall be woven. More measurements should be taken than is usually required by manufacturers. Those measurements which have been found necessary by me to secure a perfect fit, are shown in accompanying cut. The belt should extend as high as the last rib and should be quite snug in fit. All measurements should be taken from the naked body, patient standing squarely upon both feet. Tape should be drawn almost uncomfortably tight at each point of measurement.

After trying various manufacturers, with various degrees of satisfactory results in fit and good workmanship, I have found most complete satisfaction in the work of the Pomeroy Company, 785 Broadway, New York .

Report of Cases.—CASE I.—Mrs. A——, aged thirty-four, married seven years. One child born thirteen months after marriage. Labor hard. Instrumental delivery after twenty hours. Convalescence from confinement slow. Six months after began to be troubled

occasionally with attacks of biliary colic with marked jaundice. One year ago patient was sent to me for treatment involving uterus, tubes, and ovaries. Three weeks after coming under my care she was suddenly attacked with what she considered biliary colic, as the pains were the same in location and feeling as in previous attacks which had been diagnosed as biliary colic. On examination there was found an elastic tumor, painful on pressure, freely movable just beneath last rib on right side, separable from the liver. Pressure upon this tumor produced profound nausea, which would last for some hours after. No jaundice. Bowels regular. Movements normal in color. Urine scanty, highly colored, extremely acid, causing considerable excoriation and pain in passing. Temperature rose on second day to 103° F., varying between 100° F. and 103° F. for four successive days. Tumor in right side daily increased in size, becoming exquisitely painful to touch. Nausea after second day was constant. An average of two



grains of morphine in twenty-four hours was required to make pain tolerable. On fourth day patient suddenly experienced relief from pain accompanied with an urgent desire to urinate. She then voided a large quantity of dark, foul-smelling urine, freely intermingled with blood, after which temperature dropped to normal. She had been peculiarly free from pain during intervals of attack. After soreness subsided kidney could be well made out as freely movable. Bandage applied with right pad. No attacks since.

Case II.—Miss S——, aged nineteen. Had been in perfect health until one year ago, when on a visit to friends in the country, she became one of a party to enjoy a straw-ride, the vehicle being a high farm wagon without springs. When the destination was reached she thoughtlessly jumped from the side of wagon to the ground, a distance of about six feet. Immediately she experienced a sharp pain in the right side just beneath the ribs, but thought nothing of it. The acute pain soon subsided, and in its place she suffered with a heavy, aching pain associated with dragging in region of right kidney. This continued with varied intensity until time of attack. On her return home she began to jump her sister's baby, which weighed about thirty pounds. In a few weeks she began to suffer with pain in bladder and urethra, with more or less constant desire to urinate. Also an aching of labia majora, as if they were bruised, pain extending down right thigh to knee. Headaches in back of head. Shifting pains in finger- and wrist-joints. The menstrual period, which previously had been free from pain, was now associated with marked increase of all foregoing symptoms. Five months ago began to be troubled with chronic dyspepsia. No appetite. When food was taken into the stomach, after several hours parts of it would be vomited undigested. Bowels became constipated. Four months ago was seized in the right side with severe pain. At this time I was called in, and on examination found a tumor in right side below the edge of the liver, quite tender, slight pressure upon which caused several successive convulsive efforts to vomit. Temperature rose by second day to 104° F., ranging between 104° F. and 102° F., for ten days. Pain was kept under control by phenacetine and codeia. On fourth day she passed a large quantity of turbid, odorless urine, after which she was completely relieved of pain. In two days tenderness had sufficiently subsided for diagnosis of nephroptosis with acute hydronephrosis to be confirmed. Measurements were taken for a belt; but before it arrived she was taken with a second attack much lighter than the first, only lasting five days; same temperature and slight pain. Kidney, in this instance, reached only half the size as in previous attack. Belt and pad applied with perfect relief of all symptoms. Says now she feels better than ever before.

Case III.—Mrs. O——, aged forty-eight. Four children. Labor normal. Five years ago was operated upon for large fibroid of uterus, which was removed. Health ever since has been bad. Chronic dyspepsia. Locomotion painful. Constant dragging pain in back, only relieved by recumbent position. Bowels constipated. Inclined to be hysterical. Pain in bladder, urethra, and on inner side of thighs. Has been treated by various physicians for neuralgia of the bladder. Urine normal in quantity, containing albumin ten per cent. by measure. Physical examination revealed abdominal muscles extremely relaxed. Both kidneys movable; slightly enlarged and painful on pressure.

Treatment.—Patient was ordered a milk diet and rest in bed, under which albumin quickly disappeared from urine. Belt was then applied, with two pads, which completely relieved all pains in bladder and other locations. Constipation and dyspepsia soon disappeared. Patient is now well. Can walk several miles without the slightest fatigue. Has had no trace of albumin in urine for three months.

Case IV.—Mrs. B——, aged thirty-five. Seven years ago became pregnant. About the third month of pregnancy began to suffer with pain of a colicky nature at intervals of from one to three weeks. Pain was located in right side, just beneath last ribs and in back. Was never jaundiced during any of these attacks. Labor hard, with instrumental delivery. Convalescence from confinement slow. From time patient began to walk complained of backache, which was more or less severe all the while. Bowels regular. Five years ago she was seized with a severe pain in right side much more severe than any previous attack, lasting four days, and requiring morphine to make pain tolerable. Urine dark, scanty, and highly colored with bile. Fæces almost white. Marked jaundice. After this attack was quite weak. Failed to respond to restorative agents. Was then advised to travel in the West, which she did for several months with marked improvement. While on this trip had another attack associated with some jaundice. These continued to return at intervals of from two to six months for four years. Then she had no more till December, 1892, but had pain in back more or less constant. Digestion good. No vesicle or urethral symptoms. Bowels inclined to constipation. Menstruation free from pain. During the month of

December, 1892, had two quite severe attacks, during which I was called in.

When first seen she complained of severe pain located over region of liver, extending to median line, associated with nausea and vomiting. A tumor could be made out just beneath the free border of ribs on right side, hard and exquisitely tender. Tongue coated and yellow. Skin and conjunctiva slightly yellow. Urine scanty and stained with bile. Temperature 100° F. Fæces passed next morning after enema, clay colored. This attack lasting seven days, required morphine at intervals of about six hours to give patient some relief. After second day jaundice became quite marked, temperature rising to 103° F. On the sixth day, as bowels were constipated from the use of morphine, a dose of Rochelle salts was given, which in a few hours produced a free watery evacuation. Bowels moved the next morning of themselves. Two hours previous to their action patient expressed herself as much relieved of the feeling of heaviness and weight in the hypogastric region. On examination of discharges from the bowels they were found to contain a good many hard lumps of fecal matter intermingled with a considerable quantity of muco-pus and blood, which had been acted upon by intestinal juices, after which discharge temperature dropped to normal and convalescence was quite rapid, with complete disappearance of tumor.

A few months later, while in Chicago, was taken with a similar attack much lighter than the previous one. Was diagnosed by attending physician of hotel as an attack of biliary colic. In April, 1893, while out riding, the horses becoming frightened and unmanageable, she jumped from the carriage, falling upon buttocks, at which time she experienced sharp pains in pelvis and back. On her return home I was immediately summoned, and on examination found the uterus forcibly retroflexed. This condition had not existed previous to fall. Uterus was restored to place and steadied by wool tampons, with prompt relief. In May was called in to attend her in another attack. On examination there was found a large tumor in right side, exquisitely tender on pressure, which extended well up under ribs. Definite outlines could not be determined, as pain precluded thorough palpation. No jaundice. Bowels constipated. Constant nausea. Urine scanty, high-colored, and free from bile. Complained of pain in bladder, urethra, and external genitals, also in inner side of thigh to knee. Temperature ranged from 101° F. to 104° F. Morphine was constantly required to relieve pain. On sixth day an unusually large amount of clouded urine was discharged, which was quickly followed with relief. This case is one peculiarly instructive as demonstrative of the existence in the same person of two conditions so strangely similar in their manifestations, but yet so dissimilar in the causative lesion and appropriate treatment.

My diagnosis in all attacks except the last was biliary colic, with ulceration through into the duodenum during one attack. Feeling uncertain as to my ground as to the last, and wishing for advice as to the advisability of operative procedure upon the gall-bladder, and not feeling that the movable kidney took much part in her sufferings, I sent her to Dr. E. G. Janeway, of New York, who saw her for me and advised the use of abdominal belt, feeling that the kidney was largely to blame for her sufferings, and that no surgical procedure should be attempted upon gall-bladder, as he could find no evidence of disease or obstruction at time of examination. Since the wearing of belt patient has been free of all pain and greatly improved in health. It is quite probable that the associated nephroptosis was brought about by the fall received in April, 1893.

Case V.—Mrs. B——, aged forty-seven. Has had seven children. Since the birth of the third has been an invalid, from vesicle and urethral pains and dragging sensation in back, associated with chronic dyspepsia; these symptoms were persistent during the intervals between pregnancies and up to the third month of pregnancy, at which time all troublesome symptoms would gradually disappear, only to immediately reappear after confinement. Two years ago she was sent to me for treatment and repair of perineum and cervix. On careful examination left kidney was found displaced to a considerable extent, right kidney slightly so. Patient having a severe endometritis, she was curetted and cervix and perineum repaired. After recovery from these operations a belt with two pads was applied, which resulted in her complete restoration to health. It is an interesting fact to note in this case that the uterus, as it enlarged and rose in the abdominal cavity, so increased the intra-abdominal pressure that all displaced viscera were pushed back into position and held there, thus relieving the painful symptoms, which would reappear on the uterus returning to its unimpregnated state.

Case VI.—Mrs. S——, aged thirty. One child. Has been married eight years. Since birth of child six years ago, patient has been an invalid suffering with pains in back, head, thighs, bladder, and urethra, with recurring attacks of colicky pain of more or less severity in right side never associated with jaundice. Has also been a great sufferer from chronic dyspepsia. Bandage and pads applied with relief from all distressing symptoms.

Case VII.—R——, infant, eight months. Swallowed some pieces of plaster while nurse was inattentive, which was followed by intestinal obstruction. All medical treatment having failed after thirty-six hours' effort, the attending physician decided the case was one demanding immediate surgical attention. I was asked to operate. On examination, though abdomen was quite tympanitic, a distinct tumor could be felt on right side half-way between crest of ilium and umbilicus. Tumor was movable. Its exact consistency and shape could not be made out on account of tympanitic condition of abdomen. All who were present agreed in the belief that this tumor was the obstructed gut, probably of volvulus. The mother was questioned carefully, but stated that she had never noticed the abdominal tumor previous to this time, which she could now feel with the greatest ease. Child being placed under chloroform, median incision was made and fingers passed into abdominal cavity. The tumor was found to be a floating kidney; the obstruction being an intussusception located in left hypogastric region. This I believe is the youngest case of floating kidney yet reported. The child had never suffered any inconvenience from this deformity.

Case VIII.—Mrs. S——, aged twenty-six. One child five years ago, since which time has been a constant sufferer from dyspepsia, never having suffered previously; also from acute attack of sharp, lancinating pains with intense fulness, which come on at intervals of from three to four months. These attacks had been looked upon as the result of acute indigestion. Eight months ago she first came under my observation. On careful investigation right kidney was found freely movable. Belt and pad were applied with thorough and prompt relief. Three months after first seeing her she became pregnant. After third month she was enabled to leave off belt with perfect comfort, as the enlarged uterus held the kidney in position.

Case IX.—Mrs. R——, aged fifty-one. Has had four children. Health till one year ago was perfect. At that time her eldest son, a large man weighing about one hundred and sixty pounds, was taken sick with typhoid fever. She nursed him through his illness, often lifting him from one side of the bed to the other. Gradually she developed a dead aching pain in right side and back just beneath the free border of ribs, which she described as feeling like a constant tooth-

ache. This continued to increase in severity till it culminated in an acute attack, which occurred about two months after his recovery. During the night she was seized with sharp, lancinating pains in right side, so severe that before her family physician, who was immediately summoned, could arrive, she was almost in collapse. She complained also of great pressure and fulness just beneath the last ribs. Temperature quickly rose to 103° F., where it remained with slight variations for six or eight days. On the sixth day after acute attack I saw patient in consultation. At that time there was a considerable localized peritonitis, and a large tumor could be made out below the liver and extending to crest of ilium. Diagnosis arrived at was acute hydronephrosis following nephroptosis, the latter being brought about by the lifting of her son during his illness. The later history of this case I am unable to give, as she passed from under my observation.

CASE X.—Mrs. C——, aged twenty-two. One year ago was delivered of a large child. Labor slow and hard. Recovery from confinement good. Previous to confinement was in perfect health. After resuming her household duties began to suffer with dragging pain in left side, and recurring attacks of acute pain located just beneath the free border of ribs on left side. Pain was experienced also in bladder, urethra, labia majora, and thigh. During acute attacks was always much nauseated, which persisted till pain subsided. Has never suffered from dyspeptic symptoms. On examination left kidney was found movable. Belt and pad applied with relief.

CASE XI.—Mrs. C——, aged twenty. One year after marriage was confined. Labor normal. Since which has been a great sufferer from backache. No other symptoms. On examination both kidneys found movable. Bandage applied with complete relief.

CASE XII.—Miss I——, aged sixteen. Quite fleshy, which fact was a distinct source of embarrassment to her. To avoid this appearance to some extent she laced very tightly. As a result, right kidney was dislocated, associated with recurring attacks of hydronephrosis, with all characteristic genital pains, all of which were much aggravated at menstrual period. No dyspepsia. Bandage and pad applied with satisfactory results.

Five other cases with the usual train of symptoms are now under treatment, or have recently been seen. As sufficient time has not elapsed to give definite results as to treatment, no further mention will be made of them in this paper.

Acetanilide for Vomiting.—Among the many uses to which acetanilide has been put, other than that of an analgesic, we desire to call attention to its employment in the treatment of obstinate vomiting, particularly when that vomiting seems to be due chiefly to nervous disturbance or marked gastric irritability. In the treatment of the vomiting following operations, acetanilide is particularly useful, and the administration of two grains every hour until six grains are taken, will often prevent this unpleasant sequel of operative interference. We have used acetanilide for this purpose a number of times with very satisfactory results, our attention having first been called to it by Dr. Brown, of Sioux Falls, S. D., who told us that it was his custom in country practice to leave acetanilide with the nurse after the operation, with instructions to administer the drug should vomiting after recovery from the anæsthetic be an annoying symptom.—*Therapeutic Gazette.*

The Number of Medical Students and the out-put of medical graduates has greatly decreased in Ireland in the last few years. In England and Scotland there has been a great decrease in the number of medical students. The cause is said to be the addition of a fifth year and of extra studies to the curriculum.

AN EPIDEMIC OF TYPHOID FEVER AT BAYHEAD, N. J., FROM DIRECT INFECTION OF A MILK-SUPPLY.[1]

BY W. H. KATZENBACH, M.D.,

NEW YORK.

BAYHEAD is situated in Ocean Co., N. J., midway between New York and Philadelphia. It occupies a strip of land between the Atlantic Ocean and the head of Barnegat Bay. The Pennsylvania Railroad runs along the western border of this strip, and separates for the most part the summer residents on the east from the native or permanent residents scattered among the pines on the west. Bayhead includes ninety to one hundred cottages, three hotels, and two boarding-houses. The population during the summer is estimated at about twelve hundred.

Bayhead is supplied with water from two artesian wells, one over seven hundred feet deep, and the other over nine hundred feet deep, and yielding about seventy gallons per minute. The water is pumped into an elevated wooden tank of ten thousand gallons capacity, whence it delivers itself through pipes to the several houses.

Previous to the introduction of the artesian water in 1886, the earth-closet system was in vogue for the disposal of the soil, and small cesspools were used to receive the kitchen drainage. Since that date water-closets have been introduced into the new cottages, and also into many of the older. All the drainage of these houses goes into cesspools. The sanitary condition of Bayhead has always been excellent. During July of the present year a small epidemic of typhoid fever, which included fifteen cases, appeared in the borough.

The first case was Fred J——, twenty-one years of age, who came about the middle of June, from Whitesville, fifteen miles distant, with a herd of eight to ten cows. These he stalled and pastured on a small farm belonging to Mr. H——, situated about one-half mile from the railroad station. He boarded with the family of Mr. D——, who lived about one hundred yards from Mr. H——. When he arrived, Fred was not feeling well, complaining principally of constipation, for the relief of which he was obliged to take cathartics. I saw him professionally on July 13th, when I learned that he had been suffering since July 1st with severe headache, constipation, and abdominal pains. He had had three attacks of nose-bleed. He had milked the cows daily until July 11th, when, unable to be about any longer, he took to bed. At the time of my visit, in the evening, his temperature was 102.5° F.; his spleen was enlarged; his abdomen was tender, particularly in the right iliac region, and there were several rose spots on his abdomen. His mind was clear. He was under the care of Dr. Tunis, of Manasquan, and I was called on account of Dr. Tunis's inability to visit him that day. On the following day, July 14th, he was removed to his home, and, I subsequently learned, went through several weeks of typhoid fever, but made a good recovery. A short time after his return his sister was attacked with the same disease at Whitesville, was very ill, and recovered.

On the evening of July 14th, Kate C——, aged twenty, a waitress, who had been in Bayhead one month, consulted me at my office. She had had headache, fever, loss of appetite, and constipation for five days. Physical examination was negative. Her temperature was 101.8° F. She was given a laxative and capsules of quinine and phenacetine. On the following afternoon her temperature was 102.8° F., her bowels had acted freely, her headache had diminished.

July 16th, A.M., her temperature was 101.8° F.; P.M., 103.6° F. Examination of abdomen was negative. Her ailment, however, being suspected as typhoid, she was taken to Philadelphia on the morning of July 17th. She entered hospital, and went through

[1] Reported to the New York Clinical Society, October, 1894.

typhoid fever complicated with abscesses, one under the chin, and one on each buttock.

July 16th.—I was called to see James N——, aged eleven, who had been in Bayhead three weeks. He had begun to complain the day previous of severe frontal headache and fever, and was constipated. At my first visit, in the evening, his temperature was 100.5° F., and his spleen was enlarged. The fever pursued the course of typhoid.

July 20th.—He had a slight nose-bleed, and rose spots on the abdomen.

July 22d, the eighth day of his illness, his condition being favorable, he was removed to his home in West Hoboken. The duration of his fever was thirty-one days, and uncomplicated.

On the morning of July 18th, I was consulted by Miss C——, aged twenty-six, resident of Bayhead three weeks, on account of severe headache. Her pulse was 72, and temperature 98.4° F. She had a chill early the next morning, and when seen by me in the evening (July 19th), her pulse was 92, and temperature 100.2° F. Her spleen was enlarged, but there were no other abdominal signs.

July 20th.—Chill at 3.30 A.M., temperature, 100.1° F.; 12 M., temperature, 103° F.; 9 P.M., temperature, 104° F.

July 21st.—Chill at 3 A.M., temperature, 100.1° F.; 9.30 A.M., temperature, 104° F. She complained of severe occipital headache; there was no rigidity; intellect clear. She had been given quinine and was thoroughly cinchonized. Rose spots appeared July 25th. Her fever continued twenty-three days, without complication.

July 17th.—A young lady, aged twenty-five, came under the care of Dr. B. F. Hawley, with typhoid fever.

July 20th.—Dr. D. J. Milton Miller had two cases, one a girl aged twelve, and the other a female servant aged twenty-two.

Regarding the contamination of the artesian water as improbable (an examination shortly after showed the water pure), and knowing of the first case, Fred J——, on the milk farm, it was at once suspected that these subsequent cases were infected from him, as all had been drinking milk served by the dealer who bought Fred's supply. This dealer, Mr. C——, owned no cows, but purchased his milk from three dairies, and from the Milk Dealers' Association of Camden. He supplied forty-eight families in Bayhead, and a large number in Point Pleasant, one mile and a half distant, where he resided. Two other dealers distributed milk in Bayhead, Mr. J——, who had two cows, and Mr. T——, who owned and managed a dairy-farm at Allaire, eight miles from Bayhead. No cases appeared in the cottages and hotels receiving their milk from these sources. In Bayhead Mr. C—— sold only the Camden milk and Fred J——'s. All his cans were cleansed with water from his own well, and taken to the farms, where, without further cleansing, they were filled.

In the absence of a local board of health, the New Jersey State Board was notified July 23d of the presence of typhoid fever, and was requested to send a representative to take action in the matter. In this communication no hint was given that milk was suspected of being the cause of the epidemic.

Mr. George W. McGuire, the State Dairy and Food Commissioner, arrived July 25th, and after investigating, took samples of milk from Fred J——'s remaining cows, and water from the wells on all the farms from which Mr. C—— purchased milk.

July 27th.—Dr. A. Clark Hunt, member of the State Health Board, visited Bayhead, and with Dr. Miller and the writer, inspected the cottages where cases of the fever were occurring. He examined the plumbing, drains, and cesspools, and was satisfied that nothing in their condition would account for the outbreak of typhoid, and that the milk sold by Mr. C—— was responsible. The sale of Fred J——'s milk had been stopped July 22d, and seven of his cows were taken back to Whitesville July 24th or 25th. At this latter date only four families were receiving milk from Mr. C——. On July 28th Mr. C—— was prohibited by Mr. McGuire from selling milk any further in the borough.

From July 23d to 30th, eight more cases occurred, including the driver of Mr. C——'s wagon, who was attended by Dr. Whittaker, of Point Pleasant. Although one of these was taken ill in Philadelphia, it properly belongs in our list. It was that of a female servant who had been drinking Mr. C——'s milk. July 2d she was attended by Dr. Miller for some slight ailment and returned to her home on that date. On July 17th she was taken ill with typhoid fever. These make a total of fifteen cases, all of whom consumed milk supplied by Mr. C——. Four were males, eleven were females; six of the latter were domestic servants. Four patients were under fifteen years of age. The youngest was a boy aged four and a half years, the oldest, a female servant aged thirty-five. All recovered. The writer visited professionally nine of these patients. Seven of them were sent to their homes and reports were received concerning them from time to time until their convalescence. The remaining two were young ladies aged respectively twenty-one and twenty-six. The duration of the fever in the first was twenty-one days, and in the other twenty-three days. One was a severe case, with temperature of 105° F. to 105½° F. the first ten days. Neither of the patients had any complications. Of the 15 cases, 3 had one relapse each. As far as I could learn, none had intestinal hemorrhage. One case was complicated in her relapse by thrombosis of the leg, and one had an abscess under the chin and on each buttock.

From the above facts it is certain that these patients were infected by milk, and that from Fred J——'s can. He showed his first symptoms July 1st. From this date until July 11th, when he took to his bed, he milked the cows daily. The first case of the fever appeared in Bayhead July 14th, just two weeks after his first symptoms, and the last case July 30th, nineteen days after he stopped milking. His milk was never cooled and was warm when served to the cottages by Mr. C——, and none of it reached Point Pleasant. Mr. C——'s cans were cleansed with water from his own well before they were sent to the dairies, and no water was used in the cans at the dairies, except at one, for the purpose of dilution, and this watered milk was sold in Point Pleasant. Mr. C—— and his family drank the water from his own well, and none of them had typhoid fever; nor did any cases of the disease occur in any family to whom he sold milk in Point Pleasant; nor on either of the farms supplying him with this milk. There were no cases in Point Pleasant throughout the summer. Fred J——'s can was also cleansed with the Point Pleasant water after it was returned empty from Bayhead. Mr. H—— and his family at Bayhead drank from their own driven well, and no one was ill. Fred J—— boarded with Mr. D—— whose wife and four children, a son of twenty-four, two daughters of eighteen, and sixteen, respectively, and a son of fourteen, drank from their well, and none were ill during the summer. They drank milk from their own cow milked by their father. From these facts it is fairly conclusive that the milk was not infected from water used in the cans for cleansing or dilution. The only way, consequently, in which the milk could have been infected was by Fred J——'s hands. How this could occur can be left to the imagination of those who are familiar with the personal habits of some who work on dairy-farms.

If we estimate an average of eight persons in each cottage during July (when they have fewer visitors than later), about four hundred individuals would have had an opportunity of drinking Fred J——'s milk. Leaving out Fred J—— and Mr. C——'s driver, who

lived west of the railroad, we have 13 cases occurring in only ten cottages, three of the ten having 2 cases each. It is probable that some of the cottages served by Mr. C—— never received any of the infected milk, for I know of a number of young persons who drank very freely of Mr. C——'s milk without any ill effect. From the driver of the milk wagon I learned that he started out each morning with the can of Camden milk and that of Fred J——'s, which he always served separately. Beginning with one he would "run it out," and then serve from the other can. One morning he would start at the northern limit of the borough; another, at the southern limit; and it is a curious fact that there was a case in each "end" cottage, and fewer cases in the cottages centrally situated. It is probable, also, that only about two hundred persons in all drank Mr. C——'s milk; and as the number of cottages who received Fred J——'s milk cannot be known, it is impossible to calculate the percentage of persons attacked of the number who drank of the infected milk. If the infection of the milk by Fred J—— occurred July 1st, as appears from the servant seen by Dr. Miller July 2d, and who was attacked in Philadelphia July 17th, the period of incubation in the last case, which occurred on July 30th, would be long (twenty-nine days) if this were the only infection; but it is possible that he carried the germs to the milk at a later date also, and maybe more than once; for the period between thé cessation of his milking and the appearance of the last case was just nineteen days. It is of curious interest that three of the victims disliked milk as a drink. One of them only took the milk with hominy at breakfast; another with berries at supper; and another, a cook, tasted the milk for the family when it was received in the morning.

Under date of September 12th, Mr. McGuire wrote that the "milk samples taken were found to be free from disease germs," and enclosed a copy of the report of the analysis of the waters made by Mr. Shippen Wallace, of Philadelphia, dated August 16th, from which I quote: "They all show the presence of nitrites, the amount of chlorine exceeds 3 parts per 100,000 in all, and the ammonia figures are beyond the limit." "In my opinion they are all unfit for potable use." "The water should not be used in connection with milk, unless thoroughly boiled before using to cleanse the cans." As far as could be learned, there was not one case of illness in the families drinking these waters.

SARCOMA OF ABDOMINAL CAVITY CURED BY TOXINS OF ERYSIPELAS.

By HERMAN MYNTER, M.D.,

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The following case is so remarkable in its result that it almost makes one doubt the correctness of the diagnosis, notwithstanding the microscopical examination.

I was called, on July 20, 1894, to see Cora P——, twelve years of age, living in the neighborhood of Buffalo. The object of my visit, as stated by the mother, was to decide, whether an operation would give her a chance of recovery, and whether she in that case could be moved to the Sisters' Hospital in Buffalo. I found the patient a well-developed girl, extremely pale, and so short of breath that she for several weeks had been unable to lie down in bed. The mother stated that she had been a strong and healthy child up to March, 1894, when she had a fall which produced marked swelling in the left inguinal region accompanied with pain and causing much distress. The swelling did not subside, but increased gradually, while at the same time her health gave way; she lost appetite and strength, and was at last forced to take to her bed. The abdomen continued to enlarge; she became feverish, with hectic flush on her cheeks, increasing dyspnœa supervened, œdema of the legs appeared, and her condition became pitiable. Four weeks previously to my visits another Buffalo physician was called in consultation. He found the abdomen enormously distended, diagnosed ascites, but on puncturing the abdomen he got a dry tap. After the puncture the swelling increased more rapidly, and with it the dyspnœa, so that the child could not lie down. Urine passed involuntarily, temperature at visit 102° F.; pulse, 130, small and weak. On examination the lungs and heart were found normal, the dyspnœa evidently being the result of the enormously distended abdomen. The abdomen was evenly rounded and distended, with dull percussion in lower parts. An indistinct fluctuation was felt by tapping over the whole abdomen. The whole lower part offered more resistance, and an indistinct mass could be felt in both inguinal regions, and in front extending upward almost to a level with the umbilicus. On account of the fever, the rapid increase of size, with indistinct fluctuation and increasing marasmus, I thought it possible that we here might have a suppurating dermoid cyst, although the case had many characteristics of malignancy, and as a fatal issue seemed imminent I advised her removal in the ambulance to the hospital for the purpose of making an explorative laparotomy in order to clear up the diagnosis, and, if possible, save her life. Examination per rectum and vagina could not be made in her position.

July 22d.—Under chloroform narcosis explorative laparotomy was performed, a large number of well-known physicians and surgeons being present. Free in the abdominal cavity was found about two quarts of a thick, odorless, chocolate-colored fluid, and there was also an inoperable growth involving both the parietal peritoneum, the mesentery, pelvic organs, and cæcum. It was loosened partly from the right inguinal region, and a piece as large as a fist removed; but the bleeding was so terrific and the patient's condition so unfavorable that further attempts were out of the question. The abdomen was therefore hurriedly irrigated with sterilized water, the bleeding checked by tamponade with many yards of iodoform gauze, the wound closed, and the pulseless and livid child hurriedly removed to the ward in a dying condition. By active stimulation she revived again; but the case was by all present considered necessarily fatal. The removed piece of tumor had a soft homogeneous appearance, looking very much like white brain tissue, and was microscopically considered sarcomatous.

During the next three days the patient improved somewhat, probably on account of the diminished dyspnœa from the relief of the tension.

July 26th.—The wound was dressed and the gauze tampon removed, which was followed by a profuse discharge of the same kind of fluid previously described. A large glass drainage-tube was thereafter inserted, through which several ounces of the same fluid were pumped out every few hours. The same day I procured a supply of filtered toxins of erysipelas from Dr. Roswell Park, and commenced to use it on the patient, injecting every day one grain in the upper end of the femur. It was impossible to inject it into the deep-seated tumor itself. During the next week a quite astonishing event occurred. While there still was a profuse discharge of the fluid mentioned, necessitating pumping out every two or three hours, there commenced to be discharged through the drainage-tube large masses of necrotic tissue of the size of good-sized oysters. It became necessary to remove the tube frequently in order to pick out these necrotic masses, which would completely fill up and choke the tube.

August 7th.—It is noted in the journal that about one ounce of fluid, which now has more the character of pus, is removed every three hours, and with it large masses of necrotic tissue. The patient is remarkably improved, the tumor appears to be receding, the appetite is good and the abdomen very much smaller.

August 13th.—Abdomen irrigated with peroxide of hydrogen daily, and a large quantity of degenerated tissue continues to come away. The patient is greatly improved, the tumor seems to be rapidly melting away. Her appetite is good; pulse and temperature normal. The toxins do not produce elevation of temperature.

August 23d.—The discharge is diminishing, and less amount of necrotic tissue discharged. There is still felt some swelling deep in the pelvis, particularly on the right side. Patient otherwise steadily improving.

September 11th.—Discharge has almost disappeared.

September 17th.—Patient discharged to her home in excellent condition. She is a picture of health, with red lips, fleshy, and healthy-looking. A small fistula yet present, leading to a cavity containing about one-half ounce, into which a rubber drainage-tube is still inserted. No swelling can be felt in the pelvis, but there is still some infiltration in the anterior abdominal wall around the drainage-tube. There is no discharge except a small quantity of pus, and the abdomen is reduced to its normal size.

October 4th.—Patient continues in excellent health, drainage-tube has been removed, and the fistula superficially granulating.

The piece of the tumor removed was unfortunately lost, but some of the large masses discharged were submitted to Dr. F. J. Thornberry, who gives the following report:

Macroscopically the specimens comprise principally irregular and quite firm pieces of tumor of varying size, some of which have shredded margins. Microscopically are seen masses of round and elongated cells, with, in places, accumulation of brownish pigment granules. The appearance of round cells may be due to transverse division of elongated cells. In portions of the growth no cellular elements are discernible, the specimen having a coarse fibrous appearance. Blood-vessels through the tumor are quite numerous. Necrotic changes have taken place in some parts. From the histological character of this growth I would consider it sarcomatous.

Ice Creams and Bacteria.—Dr. Klein has been examining bacteriologically the ice creams sold in the public streets, and the water used for washing the glasses in which they were served. In all, six samples were examined, and in each sample such an abundance of pathogenic and other germs were found, that it led Dr. Klein to assert that they were not inferior to ordinary sewage. Many of the forms identified bore striking resemblance to those diagnostic of typhoid—if, indeed, they were not identical. In view of these facts the importance of careful legislative control over food provision cannot be overestimated.

The Average Number of Medical Members of the Japanese House of Commons has hitherto, it appears, been three or four. At the last election, which took place on September 1st, only one (Dr. Wakizaka) was elected. Japanese doctors would seem to have even less taste for the political arena than their English brethren.

SYPHILOMA OF OPTIC CHIASM PRODUCING BILATERAL TEMPORAL HEMIANOPSIA.[1]

By CHAS. E. NAMMACK, M.D.,

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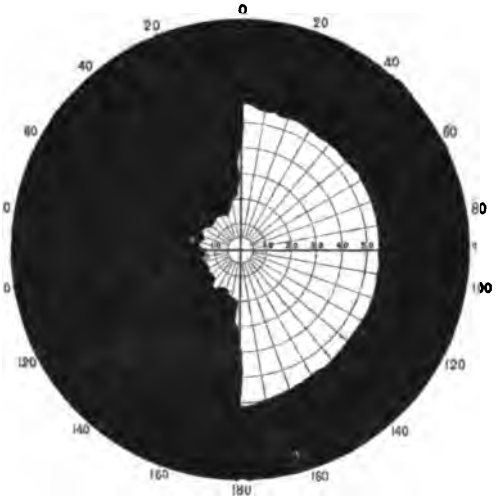
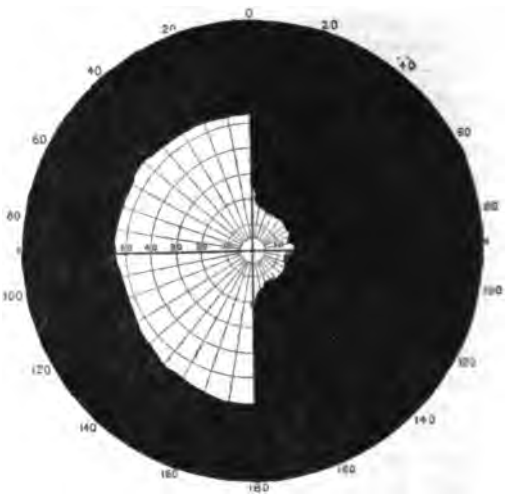
WILLIAM P——, thirty-four years of age, cloth examiner by occupation, applied February 20, 1894, for treatment on account of severe occipital headache, which had lasted twenty days with progressively increasing intensity. He also complained of fissures of the tongue, and gave the following interesting previous history. He had always been a moderate Saturday night drinker,





but seldom drank on business days. He had never had rheumatism. In October, 1889, he contracted a chancre, for which he consulted a physician, who recognized it as the initial lesion of syphilis, and at once instituted mercurial treatment. Six weeks later Mr. P—— was found unconscious in the bath-room, and remembers nothing of the events of the succeeding forty days, at the expiration of which time he found that he had paralysis of the right side. At the end of three months he was able to leave his bed. He then took from three to six one-quarter-grain pills of proto-iodide of mercury every day, until eleven hundred pills had been consumed. Iodide of potassium was next given him, in doses ranging from ten to twenty grains three times a day, until December, 1893, a period of four years from the time of his initial lesion. Treatment was then stopped. Four weeks later the headache, for which he came to the Hospital, developed.

Examination.—Fissures of the tongue have the characteristic appearances of late syphilis.[2] No apparent facial palsy. No tenderness to skull percussion. Pupils react normally to light and to accommodation. Sways slightly when standing with eyes closed. Staggers slightly to left in walking. Knee-jerks exaggerated. Ankle clonus present. Dynamometer records the same hand-grasp on the two sides. Patient states that he has had several narrow escapes from collision with vehicles approaching him from either side, and rough tests show the existence of bi-temporal hemianopsia. He is referred to Dr. Leroy Pope Walker for more accurate examination, and Dr. Walker reports that vision = $\frac{10}{10}$ in each eye. Color vision, normal. Fields of vision as shown in annexed perimeter charts.

The diagnosis is, therefore, gumma in the substance of the optic chiasm.[3] It is evident that the growth must be an infiltrating, rather than a compressing, neoplasm, in order to exactly split the middle fibres of the chiasm, and allow the morbid influence to remain limited to the central portion. The absence of paralysis of the adjacent motor nerves to the eyeball muscles

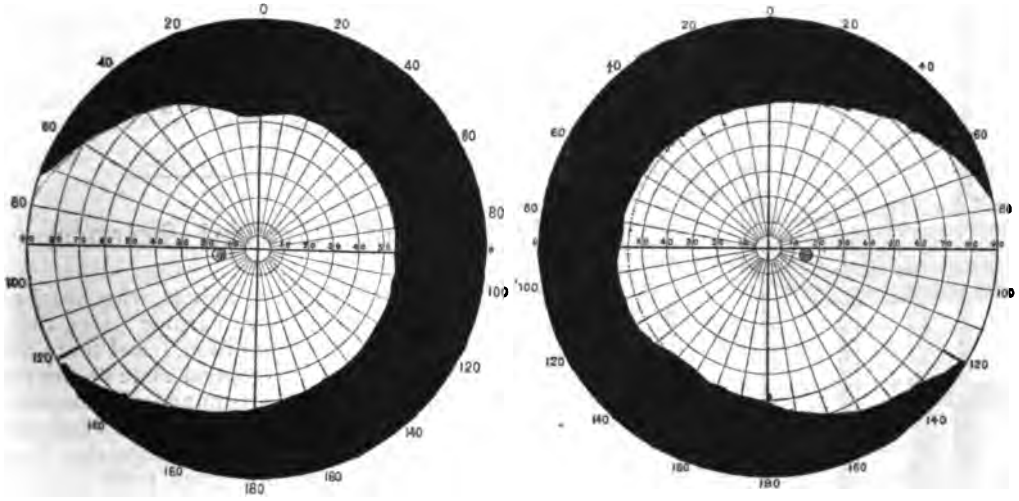
[1] Patient presented at meeting of New York Neurological Society, December 4, 1894.

[2] Vide Fairlie Clarke, Diseases of Tongue, Figure 25.

[3] Vide Herter, Diagnosis of Diseases of Nervous System, p. 149.

would also indicate that the disease was within, rather than outside of, the chiasm.

The treatment ordered was inunctions of blue ointment, and iodide of potassium internally, the latter to be gradually increased in dosage until relief of symptoms or intolerance of drug had set in. He used two ounces of ointment at the beginning, and has used the iodide continuously since in doses of fifty drops of a saturated solution after each meal. The effect upon the symptoms was marked and rapid, except in the case of the tongue fissures, which showed their usual rebelliousness to local and general medication. Dr. Walker



again examined the patient on November 19, 1894, and found that the hemianopsia had entirely cleared up, as shown by the following charts.

This happy result of treatment was hardly to be expected when the early malignancy and precocity were considered. Hemiplegia occurring six weeks after an initial lesion, with correct antisyphilitic treatment during the interval, is not often seen. When it does occur, it betokens a particularly virulent infection. H. C. Wood[1] cites a case reported by Ad. Schwarz with hemiplegia on the forty-sixth day. Gowers[2] states that, in his cases, the shortest interval between infection and acute cerebral softening from syphilis, was six months.

29 East Twenty-fourth Street.

A MEANS OF CONTROLLING AND REGULATING THE STATIC INDUCED CURRENT.

By MARGARET A. CLEAVES, M.D.,

Instructor in Electro-Therapeutics to the New York Post-Graduate Medical School, New York City.

The so-called "static induced," whether developed from a frictional or an influence machine, is a current of an alternating discontinuity, whereby currents of alternating directions commence and cease intermittently.[3] It is characterized by a series of oscillations, and these may vary, according to the size of the condenser, from a minimum of less than 16,000 periods per second (or within the limits of audition) to 1,000,000 or more periods per second. The therapeutic value of this current is thoroughly recognized, but the difficulty of controlling and regulating it has no doubt militated against its usefulness. In fact, the only method of control heretofore in use has been that of separating the discharging rods as slowly and gently as possible. This has effected an adjustment of the frequency, but has not provided for the regulation of the other important factor, namely, the quantity or ampèrage which might be desired with a given number of periods. When this separation is performed with the greatest care, it is still impossible to do away entirely with sudden shocks and jars, which are painful to all in varying degrees, but especially to nervous, sensitive patients.

A certain amount of experimental work in conditions where a profound massage effect was desired, especially in pelvic conditions, convinced me that to obtain its full measure of usefulness, and thus to insure its highest therapeutic success, it was necessary to be able to regulate and control the volume or ampèrage of this current with the same nicety that is possible with the constant, induced, or sinusoidal current. Despite the difficulty encountered in securing this control of the static induced on account of its immense E. M. F., the writer undertook, in the early part of 1894, to make some experiments with various patterns of water rheostats, to see if by any possibility a regulator could be constructed on this principle, through which this current could be passed without the danger of spark leakage. The first experiments were made with the Bailey water rheostat, and I found that, so long as I kept my spark gap as short as the distance between the two milled screw heads, I could perfectly control it. The same thing was proven with other water rheostats, and the fact established that all that was necessary was to keep conducting material at the maximum sparking distance apart.

Finally, the instrument shown in the cut was constructed for me by the Galvano-Faradic Manufacturing Company of New York City. Enclosed in the glass tube *A* is a cup of pure carbon *B*. This cup is secured at the bottom and forms one of the terminals, the other terminal is a tapering carbon rod *C*, fastened to a metal rod *D*, and wrapped with a sponge at the apex *E*. On the top of the rheostat, connected with a coarse double-thread screw (a continuation of the metallic rod *D*), is a metal bar *F*, ending in a large milled screw-head *G*. By turning this screw head the carbon point is raised and lowered at will. The glass is filled with water until it touches the sponge on the end of the carbon rod. The rheostat is wired on the principle of a shunt circuit, and has double binding posts, one to receive the wires from the Leyden jars, the other for the conducting cords distributed to the patient. The rheostat may be connected directly with the machine in the room in which it is placed, or heavy well-insulated wires may be connected with the static induced binding posts, and carried through apertures in the wall to an appropriate place at a distance, keeping them at all times more than sparking distance apart. It may then be placed at a convenient point for daily use, by the right hand of one's operating-table, for instance, and connections made in that position with the wires from the machine. It is possible to use it with any size of the Leyden jars and a spark gap of from one to four or five inches. The latter, of course, is only desirable with the smallest jars, but with the longer spark gap the current loses the rapidity of its oscillations, but gains in E. M. F.

When the rheostat is permanently connected with the machine, as I have indicated, the first thing to do is to arrange the spark gap of the size desired and set the machine in motion, then connect the conducting cords from the rheostat to the electrodes through which the current is delivered to the patient. When all the connections are made for the administration of treat-

[1] Pepper's System of Medicine, vol. v., p. 1002.
[2] Diseases of Nervous System, Am. Ed., vol. ii., p. 425.
[3] Professor Houston.

ment, the tapering carbon fastened to the metal rod is gradually raised by turning the screw until the current strength desired for the particular application is reached. This can be done to such an extent as to produce the most violent muscular contractions without the patient suffering from any pain, jars, or shocks. With appropriate connections every voluntary muscle of the body can be put into a state of activity, with the exception of a few muscles of the head and face, and the temperature raised from a fraction of a degree to two degrees. It accomplishes, in common with the usual administration by means of sparks, a most marked nutritional gain.

By its use all metabolic processes are encouraged. In vagino-abdominal applications, patients speak of the effect as much more pronounced than from either the induced or sinusoidal currents; an effect which they characterize as a feeling of lightness and buoyancy in the pelvis, with an ability to walk with greater ease. It is not well borne in subacute inflammatory conditions of the pelvic organs. Patients with such trouble are prone to have recurrence of pain and soreness, save with the mildest applications.

The current best adapted to the treatment of pelvic conditions, where relief from pain is desired as well as relief from congestion, is obtained by using the large or medium jars, standardizing the frequency by a very small spark gap, say from one-eighth to one-half of an inch, and gradually turning on the whole available current strength by adjusting the controller. Where profound massage effect is desired, as in prolapsus uteri or relaxed vaginal walls, a longer spark of greater E. M. F., but with less rapid oscillations, is of greater value, and for such uses no other current can take its place. By means of this instrument, when once the spark gap is arranged, the machine in motion, and the patient in circuit, the operator is able to make any application, general, intra-uterine, intra-vaginal, intra-nasal, to the eye or the ear, and so perfectly regulate the current as to make the treatment absolutely painless.

As a result of the physical peculiarities of the static induced, it is impossible to place a resistance in the circuit without damping the oscillations. This damping-out effect I can readily appreciate both by ear and touch, but as I am in the habit of increasing the number of revolutions of my machine under these circumstances, I am able to compensate for any such loss and maintain sufficiently rapid oscillations to secure the same clinical effect as when there is no rheostat in circuit.

The form of the rheostat is not a new one, but an adaptation from a constant current controller already on the market. The features of originality to which the writer lays claim are the conception of the idea of regulating the current strength of the static induced without varying (in any practical degree) the frequency of the oscillations and the peculiar form of rheostat by which that idea is reduced to practice. This rheostat was shown at the New York Electro-Therapeutic Society last April, and at the American Electro-Therapeutic Association at the annual meeting in September.

68 Madison Avenue, December 15, 1894.

Progress of Medical Science.

Fatty Heart.—According to Dr. Schott, who has had a very large clinical experience of cardiac cases, there are no certain signs of this condition. But there are several symptoms, such as the general state of the patient, the condition of the heart-sounds, rhythm, etc., which make the diagnosis very probable. Often fatty deposit in and about the heart cannot be distinguished from fatty degeneration. The author gives some account of the physical and dietetic treatment of the disease. The object of the dietetic measures is to diminish the amount of fat. There is no means of making collections of fat disappear from certain parts of the body. The fat round about the heart disappears last in starving animals. Thus the improvement in the patient's condition cannot be brought about in this way. Purgative measures are harmful, and the doubtful effects of iodides are often further obscured by other symptoms produced by them. If anæmia, diabetes, gout, and especially arterio-sclerosis, be present, dietetic treatment must be adopted with great caution. Any considerable loss of weight must be carefully guarded against. Patients who have lost weight in consequence of treatment by mineral waters and dietetic restrictions, may develop signs of cardiac weakness. As regards limitation of fluids, the amount of alcoholic beverages must be lessened. It is probable that the loss of weight which may occur when fluids are diminished is really due to the impaired appetite. The author's method of treatment consists in methodical exercises, bath treatment, etc. He thinks his treatment may be carried out with benefit, and without the risks attending other methods recommended. He quotes cases to show that unpleasant symptoms may be removed without the patient losing weight. It is only when the heart has gained strength and is not to be distinguished from a normal heart, that any thinning treatment should be adopted. Any rise of temperature is also a contra-indication to it. Moderate exercise in the fresh air, which may be increased later, is useful, but over-exertion may produce unpleasant symptoms. Mental over-excitement must be avoided. Dietetic treatment should be used judiciously. He concludes that the reducing treatment should be adopted cautiously, and only in young individuals; too rapid loss of weight must be avoided; general diseases, senile manifestations, are, at least at first, a contra-indication to the reducing treatment; the fatty heart may often be treated successfully without loss of weight; and the dietetic mechanical treatment is the best.—*Deutsche medicinische Wochenschrift.*

The Pasteur Institute has now a stud of one hundred and fifty horses all undergoing treatment for the preparation of the diphtheria antitoxin.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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A NEW TREATMENT FOR CHRONIC JOINT AFFECTIONS.

A SOMEWHAT novel method of treating chronic rheumatic and gouty affections has been tried at St. Bartholomew's Hospital, and at the Northwest Hospital, in London. As described by Mr. Alfred Willett, the Tallerman-Sheffield local dry hot-air bath is an invention by which dry air at temperatures from 250° to 300° F. is applied to a portion of the body, such as hand or foot, knee or elbow, an arm or leg. The bath itself consists of a copper cylinder, varying in size and shape according to the part to be enclosed. At one end the limb enters, surrounded by rubber sheeting, and the other is closed by a movable cap working on a pivot, by the use of which, and outlets at the top and bottom of the cylinder, it is found possible to keep the air in the chamber practically dry throughout the operation, notwithstanding the moisture thrown off by the limb enclosed, and instant relief can be afforded the patient if the temperature causes any discomfort. The cylinder is heated by gas burners placed underneath. Precautions are taken to prevent the skin from coming into contact with the heated metal. Mr. Willett's conclusions are decidedly in favor of the treatment in certain cases, and his results may be summarized as follows: The first effect of the heat is to induce a copious diaphoresis; and the circulation of the blood in the part is enormously increased, as is well shown by the bright redness of the limb when removed from the bath. The anodyne effect is often remarkable; pain is generally not only relieved but entirely removed, so that the patient expresses the great relief he feels and moves the limb with much greater freedom and with much less pain. The cases that appear most likely to be relieved by the treatment are sprains, stiff joints (where there are no very strong adhesions), flatfoot, gonorrhœal rheumatism, acute and chronic gout, chronic ulcers, and rheumatism. It deserves also to be employed for its anodyne effect, after forcibly breaking down under an anæsthetic adhesions which have formed in or around a joint; if the limb be placed in the cylinder the pain, which is generally severe, is greatly lessened and the secondary stiffness is much diminished. Mr. Willett was of opinion that but little assistance would be afforded by this bath in overcoming firm, fibrous, articular adhesions. Sooner or later the adhesions will have to be forcibly broken down under an anæsthetic.

The treatment was applied at the Northwest London Hospital, by Mr. Mayo Collier, upon eight cases. The patients suffered from sprains, rheumatoid arthritis, gout, chronic leg ulcer, and tuberculous knee-joint. Improvement was reported in all cases, and in some it was quite striking.

THE VALUE OF PHYSICIANS ON HEALTH BOARDS.

FOR some weeks, says *The American Lancet*, the matter of a new law reconstructing the Detroit Board of Health has been under consideration. The physicians have uniformly held that the majority of the Board should be medical men. Many laymen, including the lay press, insist that there should either be no medical men or only a minority upon the Board.

Voicing the sentiments of the laity, the Detroit *Tribune* says: "The members of the Board of Health need primarily to know what the people expect of their department. Their necessary additional equipment is the force and zeal to exact from the department the service the people want. Medical knowledge or medical skill has no part in the work of the Board of Health. While a doctor might not find his technical acquirements a detriment in performing the duties properly devolving upon the Board, as has been rather unkindly suggested, it is certain that he would find them of no use whatever. The qualifications of a member of any commission are entirely apart from professional attainments."

Naturally, any medical journal which attempts to argue against this view will be accused of partiality. Yet we cannot understand how sensible people can accept the logic of the *Tribune's* argument. The primary need, it says, of members of a health board is "to know what the people expect of it!" We should say that the primary needs were a knowledge of how to prevent disease, and how to teach the people to live healthfully. This involves expert and technical acquaintance with the natural history of disease, organizing power, and executive skill. A health board without experienced medical men upon it would be an absurdity. The best suggestions for preventing disease and the best sanitary organizations have come from medical men. A law such as we have in New York, making it impossible for a medical man to hold the office of President of the Board of Health, is a strange anomaly, and has been a continued affront and source of irritation to the profession of this State. It is not that a good man could not be obtained as simply an executive of the board, but that a medical man should be specially prohibited from holding such an office, whether qualified or not, merely, it would appear, because he might, under all other circumstances, be justly entitled to an exclusive right in that direction. The distinction is quite invidious from every other point of view than the purely political one.

Dr. Zacharin, one of the medical men in attendance on the late Czar of Russia, is reported to be worth 7,000,000 roubles, which he has made in the practice of his profession

WOMEN BACTERIOLOGISTS.

THE public seems very much surprised and interested by the fact that a woman physician has been appointed among the bacteriologists of the City Health Board. Bacteriology, however, is not a very mysterious or difficult science, and there is no reason why any well-educated physician, male or female, who pays attention to this specialty, should not succeed in it. Bacteriological and microscopical work require a certain orderliness of habit and nicety of touch, faculties which it is to be supposed women pre-eminently possess. Women, however, have never pursued these branches of study very eagerly, and we do not recall any great contribution either to pathology or bacteriology that they have made. Perhaps this is because poverty has always been the handmaid of pathology, and has been about the only maid the pathologist could afford to have.

Dr. Anna Williams, untrammelled by any of the usual drawbacks of fame or fortune, has now an opportunity to distinguish herself in this new line of work. Her qualifications are of a high order, and she will doubtless vindicate the principle upon which her appointment is based.

STAMP-COLLECTING AS A CHARITABLE MEASURE.

IT is a pleasure to learn that Miss Mollie Gunderson, of North Dakota, has succeeded in collecting two million stamps, and has left for Chicago to have a pair of artificial legs fitted to her.

But, incidentally to the success of Miss Mollie, there has developed a mania for stamp-collecting as an eleemosynary measure which threatens to become an intolerable nuisance. We learn, for example, that some time ago a lady thought to amuse and help her invalid sister by starting a stamp-collecting movement. She, therefore, invented a story to the effect that her sister was suffering from a chronic disorder which was curable by surgical operation, and that this operation would be undertaken by a certain hospital if the invalid could collect a million of stamps. So she organized a "chain of three."

The story passed from town to town and State to State. The stamps began to come in at first by hundreds, then by thousands. A million were obtained, then another and another, until now the patient has over eight million of stamps, and they still come in daily by the thousands. It is the old story of the salt-mill which ground and ground till the house was full, and the yard, and the barn, and the fields, and finally the ocean itself. The Kansas lady is obliged to resort to bonfires for protection.

We deprecate the further use of stamp-collecting as a charitable measure.

Organization of the Hospital Staff Association of Western Pennsylvania.—An organization of the staffs of the public hospitals of Pittsburg and neighboring towns into one association, has recently been consummated. The officers of the Association are: *President*, M. O. Jones, M.D.; *First Vice-President*, J. H. McClelland, M.D.; *Second Vice-President*, W. S. Huselton, M.D.; *Secretary*, C. C. Hersman, M.D.; *Treasurer*, I. J. Moyer, M.D.

INSTRUCTION IN HYGIENE AT WEST POINT.

THE annual report of the Board of Visitors to the United States Military Academy for the year 1894, contains a suggestion from the Committee on Hygiene and Athletics which we hope to see acted upon. The committee, whose chairman was Dr. W. M. Keen, learned upon inquiry that the instruction in military hygiene and first aid to the injured which the cadets received, was of the most meagre and fragmentary nature—far inferior, indeed, to that imparted to private soldiers by the medical officers of the different posts. The entire instruction during the past year consisted in six advance and five review recitations in physiology and hygiene, certain incidental allusions to the principles of ventilation, heating, choice of sites for camps, etc., by the professors of chemistry and engineering, and one lecture on first aid by one of the medical officers. One need not be a medical man to see that no practically useful knowledge of sanitary subjects can be acquired from such haphazard teaching as that. As well might one learn anatomy from the pictorial advertisements of lung balsams and liver regenerators in the daily papers. It is true that some instruction in sanitation is given to the young lieutenants at certain posts after graduation, but not at all posts; no complete course, however, is given at any such post of instruction, nor are all the graduates sent to these post-graduate schools. The Military Academy is the place where such instruction should be given, for here only can it be uniform and systematic.

In this matter of instruction in hygiene and sanitation West Point may well take a lesson from Annapolis. At the Naval Academy there is a regular course of physiology and hygiene conducted by one of the medical officers of the Navy. The course begins with several lectures on biology, and is followed by instruction in anatomy and physiology. After the cadets are sufficiently grounded in these subjects, they attend lectures on general and naval hygiene, and the course terminates with practical instruction in first aid to the injured. In all, about thirty lectures are given during the year, and the attention of the cadet is assured by means of monthly written examinations on the subjects treated of in the lectures.

The importance to the future naval or military officer of at least an elementary knowledge of these subjects is self-evident, and it seems strange, in this age of sanitary advance, that they should be neglected—and almost incredible that there should be any opposition to the establishment of some such course at West Point, after the defect has been brought to the notice of the authorities. Yet, that there is opposition is evident from a letter of the Superintendent of the Academy incorporated in the report. The reasons for his opposition are not stated in the letter, so we can only surmise what they are. To judge from the recommendation of the committee, however, the main objection would seem to be that no time can be found for sanitary studies without curtailing the instruction given in other departments. A number of hours are devoted to the study of mineralogy, geology, and French, and surely some of the time given to these branches might profitably

be spared for instruction in the art of preserving health.

This is the view taken by the committee, and we do not see how any reasonable man, however conservative he may be, can take objection to their modest recommendations. The committee recommended that a chair of anatomy, physiology, hygiene, and first aid to the injured, be established at West Point, that it be filled by the senior surgeon, and that the course should cover at least thirty lessons and demonstrations. To gain the necessary time for this course, the committee further recommended that the eleven recitations on hygiene now held by the professor of chemistry, be given to the proposed chair, and that the remaining hours be taken from the courses on mineralogy and geology. The study of these two subjects, while doubtless very desirable in a general way, is of far less importance to a future leader of large bodies of men than that of sanitary science. It is true that the matter of hygiene is more especially the province of the surgeon of a post. But some small posts have no medical officer, and in any case the army surgeon is a subordinate who can work for the greatest good of the men whose health is entrusted to his keeping only when his hands are intelligently upheld by his commanding officer.

FIRE IN A HOSPITAL.

A FIRE occurred in the Deaconess's Hospital at Cleveland, O., on February 1st, and almost destroyed it. Three patients and one nurse lost their lives. The accounts say that the nurses got out safely, almost at the start, with the exception of Minnie Baumer. When her sister-nurses called to her that the building was on fire she cried, "No, I will not leave my patient—I will die first." She was nursing Krause, who was also burned to death. She sat by the side of the sick man until death came to both of them. The act was a brave and heroic one, and it might well inspire the orator to eloquence and the poet to verse. But was it necessary? Should the nurse feel that she had no right to her life because her patient had no chance for his? Most people would say no, and yet it is such acts as these that stir enthusiasm and renew faith in the nobility of human nature.

News of the Week.

Antiseptic Treatment of Diphtheria.—Dr. C. J. Proten writes: "In the recent issue of the MEDICAL RECORD (page 119), are recorded some remarks which I indulged in, at a discussion of a paper read by Dr. Amende on 'A Treatment of Diphtheria upon Antiseptic Principles.' Among other remarks you quote me as saying, 'that the application could not reach the nose nor the larynx and was *less* harmful than irrigation of the nose.' What I did say was as follows: 'that the applications, as practised by the author, could not properly disinfect the pharyngeal cavity. Besides, no allowance was made for disinfection of the nose and naso-pharynx, when this locality was affected. That such applications were conducive and favored an extension of the disease owing to the infliction of traumatism, which necessarily follows, and were far *more* harmful than irrigation of the nasal passages.' I am simply misquoted in saying less harmful than more harmful, which gives the statement a different color. A statement of this sort would and should be subject to just criticism, if it were to go unchallenged. The author of the paper read, recommended an ordinary small size camel's-hair pencil, as usually used for painting iodine to the surface of the body."

The Society for the Relief of Widows and Orphans of Medical Men of New Jersey.—This society was incorporated in 1882, and has continued to grow both in influence and membership. Since its organization 241 physicians of the State have become members; of which number 22 have died, 28 been dropped for various reasons, leaving at the present time 191 active members. The permanent fund amounts to $1,338.42, and it is intended eventually to allow small annuities to widows and minor children in cases of need. The amount already paid to the families of deceased members amounts to $2,478.00. The total cost of running the society during the past year was $19.67.

The Late Dr. Loomis.—At a meeting of the Faculty of the Medical Department of the University of the City of New York, held January 25, 1895, the following preamble and resolutions were adopted:

Whereas, In the wisdom of Almighty God it has been decreed to remove from among us our esteemed and honored associate, Dr. Alfred L. Loomis, who has been for thirty-three years identified with the progress and development of the Medical Department of the University of the City of New York, and to whose untiring energy and zeal that institution largely owes its present high position, we, the members of its Faculty hereby

Resolved, That in the death of Dr. Loomis we have met with an irreparable loss, in one whom we have ever valued as a friend, respected for his judgment and wise counsel, and admired for his strength and firmness of character, for his professional skill, his scientific learning, and his literary attainments.

That while overcome with a sense of personal bereavement, we are not unmindful that the medical profession throughout the country has lost its foremost leader, and the public a distinguished citizen. And be it further

Resolved, That this resolution be spread upon the minutes of this meeting, and that a copy be suitably engrossed and sent to the family of Dr. Loomis in token of our profound sympathy and sorrow.

Sibley Memorial Hospital, at Washington, D. C., corner of North Capitol and Pierce Streets, was formally opened for patients on February 1st.

Iowa State Medical Society.—The forty-fourth annual meeting of the Iowa State Medical Society will be held April 17th, 18th, and 19th, in Creston, Ia. The following are the chairmen of the different sections for the next meeting of the State Society: Medicine, F. M. Hiatt, Red Oak; Surgery, J. M. Emmert, Atlantic; Obstetrics and Gynecology, H. L. Getz, Marshalltown; Ophthalmology and Otology, H. B. Young, Burlington; Materia Medica, J. R. Guthrie, Dubuque; State

Medicine and Hygiene, J. S. Braunsworth, Muscatine; Mental and Nervous System, F. S. Thomas, Council Bluffs.

The New Medical Bill for the District of Columbia.—The Commissioners gave a hearing on the 11th ult. to a number of medical men representing the Medical Society of the District and the Homœopathic Society, on the various bills now pending before Congress to regulate the practice of medicine.

Free Medical Education in Denver.—It is certainly very unfortunate, and surely very much to be regretted, not only in the interest of the medical colleges, but in that of the medical profession as well, that there should be a medical college in Denver granting free tuition to all students residing in the State of Colorado, and practically to all students from without the State. This condition of affairs necessarily lowers and belittles the standard and standing of our medical colleges, inasmuch as the other schools, in order to compete with the free institution, must of necessity cut fees.—*Denver Medical News.*

Harvard Medical Society of New York City.—At the annual meeting of the Harvard Medical Society, held January 26th, at Harvard House, the following officers were elected for 1895: *President*, Dillon Brown, M.D.; *Vice-President*, Charles L. Gibson, M.D.; *Secretary*, Theodore Dunham, M.D.; *Treasurer*, George E. Brewer, M.D.

Arrested for not Reporting Cases of Small-pox.—A physician of this city, whose name we do not find in the County Society's Directory, has been arrested for failing to report several cases of small-pox. The act is a misdemeanor.

A Decrease in the Mortality of Diphtheria and Croup Cases.—Since the introduction of the use of antitoxin in diphtheria and croup cases, a marked decrease in the mortality of children suffering from the two diseases has been noticed by the Board of Health. From December 15, 1894, to January 12, 1895, the total number of cases reported was 933, with the number of deaths as 273, or twenty-nine per cent. From January 12th to January 26th, 640 cases were reported, of which 119 proved fatal. The death-rate, however, was reduced to twenty-one per cent.

The Guinea-pig Supply.—For the manufacture of antitoxin guinea-pigs are needed. Fanciers, who dealt in pigs, have supplied the market, but the supply is not equal to the demand. Fame and fortune, the health authorities say, await the boy who will raise guinea-pigs for use in the laboratory. Seventy-five cents is paid for a healthy pig two months old. A pair for breeding purposes cost $1.50. The female litters four times a year, with four in a litter, but one of the number dies shortly after birth. It is almost impossible to get a guinea-pig for use in the laboratory at present. In a few months, however, the market will be overstocked, and we advise the small boy to proceed with caution.

The Animal Extracts.—Drs. T. G. Shoemaker and H. C. Wood report, in the *University Medical Magazine*, a case of Addison's disease greatly relieved by injections of an extract of the supra-renal capsules, and a case of Graves's disease nearly cured under the use of extract of the spleen.

Death of Dr. George W. Topping.—Dr. Topping, a former president of the Michigan State Medical Society, and a well-known figure at all medical gatherings in the State, died suddenly at his home in De Witt, Mich., January 14th. Few men stood higher in the profession or were more generally loved and respected.

The Death of Dr. B. W. Palmer, of Detroit, Mich., took place at Nyack, N. Y., January 4th. Dr. Palmer was a well-known practitioner and writer, and was for several years editor of *The Medical Age.*

Dr. M. C. Rowland, of Geneseo, N. Y., died on January 15, 1895, aged sixty-seven.

Dr. Joseph H. Dunnigan, of Buffalo, died of diphtheria, contracted while attending a patient, on January 4, 1895. He was born at Greenwood, N. Y., in 1864. Dr. Dunnigan was treated with antitoxin, but without success.

Dr. David W. Miner, of Ware, Mass., died on January 2d, aged seventy-four.

Dr. Lyman J. Barrows, of Janesville, Wis., died on January 15th, aged sixty-nine. He was born in Otsego, N. Y., and was a graduate of Williams College and Buffalo Medical College.

Dr. J. M. Eaton Dead.—Dr. John M. Eaton, an eminent surgeon and specialist, died in Denver, January 12th, of congestion of the brain and peritonitis. Dr. Eaton was once coroner of San Francisco.

That Day is Lost when St. Louis does not organize a new medical school. The latest is known as the "Practitioners' School of St. Louis."

The Charter of the New York Hospital.—This ancient document, granted in 1771 by George III. of England, has been in great danger of irretrievable ruin, but fortunately it has now been restored and so cared for as practically to insure its perpetual preservation. It has been carefully repaired by an expert and now hangs in the hospital library.

It is Proposed to Erect a Statue to the late Professor von Helmholtz. *Nature* states that the German Emperor has offered to head a subscription list for that purpose with a donation of 10,000 marks ($2,500).

Castration for Hypertrophy of the Prostate.—It is curious how long it takes to make the operation of castration popular even among persons above fifty-five. The operation of castration for hypertrophied prostate was first devised by Dr. White, of Philadelphia, in 1893, but as yet only thirteen operations are reported, despite the good results so far almost uniformly obtained. Ovariotomy will, we are sure, always be more popular.

The Production of Antitoxin for Boston.—Five horses were inoculated with diphtheria toxin at Gallop's Island on January 25th, as a first step toward the production of antitoxin by the Boston Board of Health.

The Next International Congress is to be held in Moscow in 1896; the President will be Dr. J. Th. Klein, Dean of the Faculty of Medicine. The Local Committee on Organization has chosen as its President, Count P. A. Kapnist.

Reviews and Notices.

OBSTETRIC SURGERY. By EGBERT H. GRANDIN, M.D., Obstetric Surgeon to the New York Maternity Hospital; Gynecologist to the French Hospital, etc.; and GEORGE W. JARMAN, M.D., Obstetric Surgeon to the New York Maternity Hospital; Gynecologist to the Cancer Hospital, etc. With eighty-five illustrations in the text and fifteen photographic plates. Pp. viii.–207. Philadelphia: The F. A. Davis Co., Publishers. London: F. J. Rebman. 1894.

"THE key-note of this volume is election in obstetric surgery." This is the opening sentence of the preface, which will at once arrest the attention of those teachers of obstetrics who believe that the time has come when midwifery should be regarded as an exact science rather than a collection of aphorisms. After a careful perusal of the book we have no hesitation in affirming that the author's plan is clearly and consistently developed throughout. It is thoroughly practical, and reflects the experience of the bedside rather than the work of the library. With all due respect to our elders in the profession, too much responsibility has been thrown upon "Nature" in the management of labor-cases. Nature is a tricky jade. We are beginning to learn that it is often wiser to forestall her treachery than to allow her full liberty. How many mothers and children have been sacrificed by a reliance upon natural forces, which never have, and never can, effect delivery under the unrecognized abnormal conditions present!

It is with such cases in mind that we hail with pleasure the advent of the terse, forcible lessons in elective obstetrics as are contained in this work. As space forbids us to review it at length, we can only call attention briefly to its salient points of excellence.

The introduction on asepsis and antisepsis, and the initial chapters on pelvimetry and the induction of premature labor, are especially commendable. Chapters III. and IV., on forceps and version, contain just those practical points for which the physician looks in vain in the text-books. Symphyseotomy, Cæsarean section, and embryotomy, are fully discussed in separate chapters.

A chapter on the surgery of the puerperium is a new departure in an obstetric work, and a most praiseworthy one, since the subject is treated from the standpoint of the gynecologist, as well as of the obstetrician. We have always held that the careless repair of lesions of the soft parts after labor is responsible for a considerable proportion of female ills. The concluding chapter on ectopic gestation is a very fair presentation of this important subject.

The illustrations are numerous, clear, and helpful, the authors' style unusually lucid and forcible. That their views are thoroughly safe and modern, goes without saying. We predict a wide popularity and general approval of their work.

ESSENTIALS OF DISEASES OF THE SKIN, INCLUDING THE SYPHILODERMATA, ARRANGED IN THE FORM OF QUESTIONS AND ANSWERS, PREPARED ESPECIALLY FOR THE STUDENTS OF MEDICINE. By HENRY W. STELWAGON, M.D., Ph.D., Clinical Professor of Dermatology in the Jefferson Medical College; Physician to the Department for Skin Diseases, Howard Hospital; Dermatologist to the Philadelphia Hospital; Physician to the Service for Skin Diseases, Northern Dispensary, etc. Third Edition, revised and enlarged, with seventy-one letter-press cuts and fifteen half-tone illustrations. Philadelphia: W. B. Saunders. 1894.

THIS is another of the handy question compends introduced by this publishing house. The first edition came out in 1890, and was so well received that the author has been encouraged to improve upon his original work wherever necessary, and to add a number of illustrations which do much to increase the attractiveness of the book. It is essentially for students, and the arrangement by questions and answers makes it a sort of home quiz.

STATE BOARD OF HEALTH OF MASSACHUSETTS. TWENTY-FIFTH ANNUAL REPORT. Boston: Wright & Potts. 1894.

AN unusually large volume of over six hundred pages, mainly devoted to reports upon water-supply, sewerage, and kindred subjects. Twenty-seven pages of index make reference to the various subjects a matter of ease.

A COMPEND OF THE PRACTICE OF MEDICINE. By DANIEL E. HUGHES, M.D., Chief Resident Physician of the Philadelphia Hospital; Physician in Chief to the Insane Department of the Philadelphia Hospital; Late Demonstrator of Clinical Medicine in the Jefferson Medical College; Fellow of the College of Physicians of Philadelphia, etc. Fifth Physicians's Edition. Thoroughly revised and enlarged, including a very complete section on Skin Diseases, and a new section on Mental Diseases, Philadelphia: P. Blakiston, Son & Co. 1895.

A HANDY, neatly printed volume, with text in fluent, easy style. The author shows considerable familiarity with mental diseases, and the short chapters illustrating the various forms of insanity are attractively written. When we turn to the part which is said to be "a very complete section on Skin Diseases," we feel that the "very" must be pronounced without accent.

In a casual search we fail to find mention of alopecia, pityriasis rosea, or rubra pilaris, dermatitis herpetiformis, eczema seborrhoicum, molluscum contagiosum, and many others.

It is well to add a chapter on the Skin Affections, but it is scarcely fair to tell the reader it is "very complete," unless at the same time you tell him what intonation to give the "very."

REPORT OF THE NINTH ANNUAL MEETING OF THE ASSOCIATION OF EXECUTIVE HEALTH OFFICERS OF ONTARIO, Held at Chatham, Ontario, August 14 and 15, 1894.

THE usual questions relating to health are reported upon and discussed.

TRANSACTIONS OF THE AMERICAN OTOLOGICAL SOCIETY. Twenty-seventh Annual Meeting, Arlington House, Washington, D. C. Vol. VI. Part I. 1894.

CONTAINS the papers read at the last meeting and the discussion upon them.

FIFTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF FLORIDA, JACKSONVILLE, March 31, 1894.

CONTAINS 56 pages of Health Officer Porter's Report and 56 pages of Appendix.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA at its forty-fourth annual session. Philadelphia, 1894.

FOUR HUNDRED AND FORTY-TWO pages, including index, neatly bound, giving a number of excellent papers.

DEFECTIVE SPEECH AND DEAFNESS. By LILLIE EGINTON WARREN. Pp. 116. New York: Edgar S. Werner, 1895.

MISS WARREN'S little book, indeed, fills a long-felt want. In her long experience as a teacher of aurally defective persons in this city, she has had a wide range of experience and, therefore, speaks from practical knowledge

of the subject. She has found that there are many deaf children in the schools who are not conscious of the fact; and for that matter the teachers themselves often are not informed upon the subject, but treat such pupils as dull and inattentive, with sad results. In fact nothing can be more discouraging to a child than struggling to get an education when the teacher pays no attention to its deafness; does not address it in a tone of voice to be heard, and, perhaps, seats it at too great a distance. This, however, is an abuse but little greater than the practice of some public schools for the deaf, where children with considerable hearing left are taught, and exhibited, along with totally deaf pupils as examples of deaf-mute teaching.

Miss Warren includes in her manual the training of stammerers as well as that of deaf-mutes and dull pupils, so-called. Sign and finger spelling receive attention, as well as teaching the dumb to speak.

The hard of hearing adult will be glad to learn that a chapter is given to explain how they may enjoy conversation. There are chapters also on stuttering, lisping, and careless speech in general. Naturally, cleft palate and other defects of the speech organ are considered from the teacher's point of view.

The whole subject of deaf-mute pedagogics is clearly considered in the light of modern science and experience.

A Text-Book of Pathology; Systematic and Practical. By D. J. Hamilton, M.B., F.R.C.S.E., F.R.S.E.; Professor of Pathology, University of Aberdeen. Copiously Illustrated. Vol. II., Parts I. and II. New York and London: Macmillan & Co. 1894.

Those who have had the first volume of this important work on Pathology must have eagerly awaited these two parts to complete the set, but there will be a compensating gratification when they find with what conscientious care the arduous labor necessary for its completion has been accomplished.

Almost all of the drawings (and they are very numerous) have been executed by the author himself. This in itself is a work of no small magnitude, and if we stop to consider the vast amount of laboratory work which made the drawings possible, the surprise is rather that there was not more delay.

The diseases of the special tissues and organs is here completed, and a chapter is added on malformations, and another on diseases of the fœtal membranes and placenta. Then follow "Diseases caused by Vegetable and Animal Parasites," "Animal Heat and Fever," "Systematic Bacteriology," etc.

A good feature is the reference to the source from which each statement of importance has been taken. The key to the number of references in the text includes 665 titles of publications. The whole number of pages is 1139. The press-work is well executed.

The Pocket Anatomist, Founded upon "Gray." By C. Henri Leonard, A.M., M.D.; Professor of the Medical and Surgical Diseases of Women and Clinical Gynecology, Detroit College of Medicine; Gynecological Surgeon to the Michigan College Hospital; Member of the American Medical Association, etc. One hundred and ninety-three Illustrations. Eighteenth Revised Edition, containing Dissection Hints and Visceral Anatomy. Detroit: The Illustrated Medical Journal Co.

The paper is so thin in this edition that the print, and especially the illustrations, show through in such a way as to endanger a student's eyesight.

Roux's Method.—The Republic of Uruguay has commissioned Drs. J. Rodriguez and Turenne to study M. Roux's method at the Pasteur Institute in furtherance of his work, and its example has been followed by Versailles.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Eighty-ninth Annual Meeting, held at Albany, February 5, 6, and 7, 1895.

George Henry Fox, M.D., President, in the Chair.

First Day, Tuesday, February 5th.

President's Inaugural Address.—Dr. Fox, in his inaugural address, stated there had been no special change in the medical affairs of the State during the year. In medical education an important advance had been made by one of our colleges in extending the course to four years. It did not follow, however, that all the other colleges ought to do the same. There was no unanimity of opinion in regard to what should be the length of the course, nor as to the methods of teaching and requirements for graduation, further than that there should be a solid foundation in each case.

Another great advance in medical instruction in the State, of recent years, had been instituted by the two post-graduate schools in New York City. The value of the work done by these institutions could not be over-estimated.

The President made two suggestions for the consideration of the Society, but did not recommend immediate action. The first related to the method of transacting routine business, which at present frequently consumed much valuable time of the Society. The method adopted by the Medical Society of the County of New York was suggested, of having routine business first considered by the *comitia minora*. A similar committee might be appointed by the Society, to consist of certain officers, reinforced by members from the different districts.

The second suggestion related to nominations for president. It was an honor to be president of this Society, but he thought those who had preceded him in the office were of his opinion, that the honor would be still greater if the selection were made by full vote. The method adopted by Yale, where the selection was made by the alumni, might be applied in a way to allow all the members of the Society to vote by mail.

Another suggestion was made which ought to be acted upon at once, namely, changing the date of meeting to a week earlier or a few weeks later, at a time when the hotels in Albany were less crowded.

He approved of the Secretary's suggestion, asking authority to turn the exchanges over to the State library. The death-roll during the year had been large. The death of Dr. Loomis, especially, was a great blow.

In arranging the scientific programme no attempt had been made to present a large number of papers, as it was desired rather to call out a full discussion.

Committees.—The following committees were then appointed: On Business, Drs. Phillips, Elsner, Pratt; on Credentials, Drs. Perry, Willard, Avery; to Recommend State Examiners, Drs. Flood, Slocum, Currier, Waldo, and Roe; on President's Inaugural, Drs. Suiter, Ward, Jacobi, Lewis, and Ely.

A Few Practical Points in the Diagnosis and Treatment of Pelvic Hæmatocele, with Report of a Case.—Dr. W. E. Colegrove named, among the causes of pelvic hæmatocele, rupture of vessels, sudden cessation of menses, ruptured extra-uterine pregnancy, rupture of aneurism, reflux of blood from uterus or tubes, or, in general, the hemorrhagic diathesis. The varieties were, extra-peritoneal and sub-peritoneal. The former was the more dangerous, but the latter was also to be regarded with suspicion.

The author's case occurred in an unmarried woman who felt pelvic pain and had some shock on alighting

from a carriage, and was pronounced by the physician who first saw her to have acute retroversion of the uterus. Dr. Colegrove saw the woman on the fourth day, found the cervix not in usual position of retroversion, and diagnosed pelvic subperitoneal hæmatocele. There was a hard round tumor posterior to the cervix, completely obstructing the bowel. Absence of fluctuation was to be accounted for by absorption of serum, leaving a hard clot. There was indication of commencing sepsis in rise of temperature to 103° F. He opened the tumor, cleaned out the clots, instituted drainage, and the patient recovered completely in ten days.

Dr. A. F. Currier fully approved of the treatment in this case, and especially of making incision per vaginam instead of supra-pubic. Usually, however, subperitoneal hæmatocele recovered under proper hygienic measures, without surgical interference.

The Use of Chlorine in the Treatment of Typhoid Fever.—Dr. R. W. Wilcox read the paper. It had been supposed that chlorine would cause irritation of the mucous membrane of the gastro-intestinal tract as it had of the respiratory tract on inhalation. Experience has shown, however, that it could be taken in quantity sufficient to be antiseptic and stimulant to certain organs without producing injurious effects. It penetrated all the tissues of the body, even to the brain, when taken internally. It quickened respiration, pulse, and excited the function of the organs of secretion, notably increasing the flow of saliva and bile. It corrected the fetor of certain products of fevers, and prevented absorption of infective materials from the intestinal tract. By its action upon the kidneys it caused more rapid elimination of toxins.

In typhoid fever the use of chlorine in moderate doses caused a fall of temperature, calmed nervous disturbance, helped digestion, cleaned the tongue, acted favorably on the ulcers, shortened the duration of the disease. The author had used it in four cases, aqua chlorinata of United States Pharmacopœia, one to four fluid drachms every two to four hours.

The Care of the Ears During the Course of the Exanthemata.—Dr. Wendell C. Phillips, in a paper on this subject, said the frequent dependence of ear trouble upon the exanthemata was shown by the statistics of the Royal Hospital for Sick Children, in Glasgow, Downie having analyzed 600 cases, 131 of which originated during measles, 63 during scarlet fever, and so on.

It was not the object of his short paper to give more than an outline of the treatment of the ears during the course of the exanthemata, especially measles and scarlet fever. Patients affected with these diseases exhibited a general inflammatory condition of the entire nasal and naso-pharyngeal mucosa, frequently extreme induration, both of which had a marked tendency to involve the Eustachian tubes. Enlarged tonsils and lymphoid tissue were apt to become much increased and further aggravate the symptoms. The secretions retained in the tympanum because of narrowing of the tube, caused pressure, pain, and the usual symptoms accompanying middle-ear inflammation. By way of prevention he recommended the following: Frequent thorough cleansing of the naso-pharynx; the child should frequently blow the nose. Dr. Phillips thought there was danger in Downie's suggestion to use the Politzer method, unless, indeed, inflammation already existed in the middle ear. Keep the tubes free from obstruction, if possible, from the first. This depended upon thorough cleansing of the naso-pharynx with a spray or douche of antiseptic solution, like Dobell's, boracic-acid solution, diluted listerine, or baptolene, alternating hourly with medicated oily sprays.

Where acute suppurative otitis had actually developed, the usual methods of treatment had to be resorted to.

Dr. J. E. H. Nichols would use a little cocaine to shrink the swollen nasal mucous membrane, thus aiding in clearing the nose, and also to allay any pain.

Tubular Cork Splints for Deformities of the Nasal Septum.—Dr. T. Passmore Berens, of New York, in a paper with this title, recommended cork as a material for nasal splints in preference to harder materials, and gauze or oakum, because of its elasticity, cleanliness, and adaptability to the required form. It was very convenient in emergency cases of injury to the nose.

Dry Treatment of Otitis Media Suppurativa.—Dr. J. E. H. Nichols read the paper. By dry treatment he did not mean cleansing the ear and blowing in boracic acid, a treatment which was attended by certain objections. The general line of management at the hospital consisted in cleansing the ear thoroughly, using peroxide of hydrogen, dry cotton, and wiping out of the ear subsequently, when moist, with cotton. This did away with heat and moisture, which was necessary to successful treatment of these cases. Liquid applications should be cleansing, antiseptic, and drying. Inflation should be used with discretion.

Care of the Nose and Throat During the Course of the Exanthemata.—Dr. C. C. Rice read this paper. The treatment recommended related to cleanliness, antisepsis, prevention of too rapid evaporation, lubrication, allaying of irritation, rendering of secretions alkaline. Seiler's solution as simple spray was recommended, to which might be added a little cocaine. Oily solutions were to be used as protective and lubricating. In their stead compound sterate of zinc powder was desirable in some cases. For warm steam he preferred the old croup-kettle principle. To solutions might be added either menthol, carbolic acid, thymol, eucalyptol, etc.

The Surgical Indications in Neuralgia.—Dr. J. G. Clark, of Olean, mentioned in this paper the several different operations done recently by various surgeons for the relief of trigeminal neuralgia, especially by excision of nerve after trephining of the temporal bone. In his own case, after excision of part of the nerve, he inserted the cautery into the proximal tract of the nerve. This man had had about all his teeth extracted, and had become addicted to opium. This was a common history in trigeminal neuralgia. Such faulty treatment, the author thought, must give way to surgical measures (excision of the nerve).

Dr. A. D. Bristow, of Brooklyn, had witnessed many operations for trigeminal neuralgia, and while relief was always obtained for a time, there was perhaps invariably recurrence. Some of the operations were not without danger, and he knew of three deaths. In Dr. Keen's case, referred to by the author, there had been much hemorrhage which was controlled by gauze tampon pushed in against the frontal lobes. No interference with brain function was noticed, except slight aphasia.

Extraordinary Intubation.—Dr. William Hailes, Jr., of Albany, reported two cases of intubation under this title. The first was a case of asphyxia in a child, two years of age, in which the following explanation was given: An embolus occurred after intubation, occluding the popliteal artery, which resulted in gangrene and necessitated amputation. It was believed there had been white thrombus in the heart, probably on the aortic valve, which caused both cardiac and respiratory difficulty, and a part had reached the popliteal artery.

The second case was one of typhoid fever in a man who, in the course of the disease, was taken with great difficulty of breathing. On attempting to do intubation the tube was arrested, and it proved to be due to cicatricial tissue, with destruction of the right arytenoid and right vocal cord. The diagnosis was confirmed subsequently by Dr. O'Dwyer and others. Asphyxia had been meanwhile relieved by tracheotomy.

Dr. Root, who had seen this patient, said perichon-

dritis was not rare, but it was rare for it to follow typhoid fever.

To Enforce a Law.—Dr. Lucian Howe, of Buffalo, offered the following resolution, which was adopted: That a committee of five be appointed whose duty it shall be to call attention to existing laws for the prevention of blindness from ophthalmia neonatorum, and to conduct the prosecution, or urge such, in cases of violation of the law.

In explanation, he said the present law was practically a dead letter.

Award of the Merritt H. Cash Prize.—Dr. Suiter read the report of the committee on prize essay. Three essays had been submitted in competition. The successful one was on auscultatory percussion and allied methods of physical diagnosis. It was by A. L. Benedict, of Buffalo.

Report of the Committee on By-laws.—Dr. H. D. Wey, of Elmira, read the report of the committee. The several recommendations made were acted upon separately. The first, providing for representation in the Society from the Elmira Reformatory and the State asylums for the insane, was opposed by Daniel Lewis, who could see no necessity for it. He could see, however, an advantage in making the presidents of the several county societies ex-officio delegates to the State Society, and offered an amendment providing for the same, which was adopted:

No one shall be admitted as delegate who is not a member of a county society.

The recommendation that the meetings be held the last Tuesday in January instead of the first Tuesday in February, was referred to the nominating committee, who should also report on the advisability of changing the place of meeting.

The Symptomatology of Cerebellar Disease. Report of Four Cases, with Specimens.—Dr. W. C. Krauss, of Buffalo, read this paper. It gave a comparison of the more recent results obtained by Luciana with those which had gone before, Flourens, Gall, etc. Luciana's results had decided for all time that complete extirpation of the cerebellum produced neither paralysis of mind, volition, sensation, motion. That it produced first, irritative phenomena; second, ataxic phenomena. The ataxic phenomena were due to three principal conditions: asthenia, atonia, astasia. The author had collected eighty-four cases in literature with autopsy, showing cerebellar disease, and compared the symptoms with those produced by experiments upon animals. The symptoms were headache, vomiting, vertigo, ataxia, asthenia, inclination to turn toward side of lesion, convulsions, and secondary lesions, as nuclear changes affecting the eyes, etc., tremor, death; negative symptoms were impairment of sexual desire, of mind reflexes, etc. Two of the cases of which specimens were shown had been reported before. The third specimen was from a case of cerebellar abscess affecting left lobe, following backward fall twice. The diagnosis was made during life, but too late for operative interference.

Dr. Krauss said the symptoms, in this and the other four cases of cerebellar disease seen by him, had been the classical ones. There had been no autopsy in the fourth case.

Abnormal Facial Development. A Study of Causes and Results.—Dr. Sumner Hayward, of Rochester, showed several silhouettes, illustrating normal and abnormal facial development, accounting for the latter by mouth breathing. Herbert Spencer was quoted on the law of harmonious development, to the effect that it depended upon growth and the influence of function. In normal or nasal breathing the mouth was fixed by the muscles, which caused the jaws to develop and assume the square form, the tongue exerted pressure against the roof of the mouth, giving it volume and breadth. In mouth breathing the jaw was dropped, the muscles thereto were not developed, the face assumed an elongated form, the mouth the appearance of the fish mouth, the palate narrow and apparently elevated. The author differed from those who attributed certain results to atmospheric pressure.

Thirty-nine Cases of Strangulated Hernia, and the Lesson Taught by them.—Dr. W. B. De Garmo, of New York, in an analysis of the 39 cases seen by him the past ten years, had found 26 in males, 13 in females; 28 inguinal, 8 femoral, 2 umbilical. In 22 there was reduction without operation. Three died, all cases seen after the tenth day. In nearly all the cases so-called taxis had failed in the hands of other physicians. Dr. De Garmo succeeded by a kind of traction or milking process, and strongly disapproved of ordinary ill-directed efforts, especially under anæsthesia.

Infants seldom required operation. Medicines and external applications were dangerous because their use encouraged delay. Rough handling was more dangerous than operation. Hot water most quickly determined whether resection was necessary on account of gangrene. Operate rather than attempt the reduction of a hernia actually strangulated twenty-four hours. Open the internal ring in every instance. Always draw the bowel down far enough to examine the point of actual constriction. It was not good practice to give cathartics after strangulation and return of suspicious vomiting.

Dr. Dallas, of New York, referred to a paper read by him before the Society two years ago, in which he described a method of taxis that had succeeded in, up to date, over fifty cases of strangulated hernia, in many of which other physicians had failed on numerous attempts with ordinary taxis.

Dr. Bristow, of Brooklyn, related some experience, and said he was convinced that if an operation had been done in the first instance in all cases of strangulated hernia, the results would have been better than by taxis.

Dr. De Garmo agreed essentially with Dr. Bristow. Operation was feared by many physicians, whereas it was very simple, all probably could do it with safety, at least with greater safety than they usually performed taxis.

The Prevention of Hernia after Laparotomy, with Exhibition of a Device for Relieving Strain upon the Abdomen.—Dr. Henry S. Durand, of Rochester, in this paper, stated some objections to methods in use for relieving strain upon the wound, and described a device first employed by him eight years ago. It consisted in attaching crêpe lisse with eyelets to the integument on each side of the abdominal wound, and drawing them toward each other by lacing. This took stress off of the intervening integument and, he thought, off of the divided edges to the full depth of the wound, allowing opportunity for formation of a firmer cicatrix.

Dr. Waldo thought proper suture would do away with the necessity for this device in most cases, but was glad to know it did not make pressure on the cicatrix.

Dr. Daniel Lewis had been accustomed to draw the edges of the wound together, in breast operations, by strips of gauze attached to the skin on each side by collodion, tying them in a knot over the wound, a dressing being beneath.

Dr. De Garmo and Fish also made a few remarks.

Inversion of the Appendix Vermiformis. — Dr. George M. Edebohls, of New York, in a paper with this title, stated objections to the two usual methods of disposing of the appendix stump—the first by simple ligation and excision, leaving cut mucous surface exposed in the peritoneal cavity; the second by pushing the ligated end in and stitching peritoneum over it—and advocated in their stead inversion into the cæcum, then covering the outer lumen by the peritoneal coat which had been previously stripped back. This treatment applied where the appendix was amputated, and also to the whole appendix when in other abdominal operations the healthy appendix came into view. He

could not say what became of the appendix thus inverted into the cæcum, nor did he care much, since, if it necrosed, it could only be discharged with the fæces.

Drs. McDonald, Fisk, and Clark offered objections to the procedure described, some of which Dr. Edebohls showed to be based on misconception.

Dr. Liell and Dr. Boldt thought inversion an admirable method of disposing of the stump in certain cases; while Dr. Currier expressed fear of exposing it to the influence of the fæces within the cæcum, and would like to know more of the after-result.

A New Method of Closing the Abdominal Wound after Cœliotomy.—Dr. Ralph Waldo, of New York, described a new method of closing the abdominal wound, the object of which was to further diminish the liability to hernia. In the diagram the walls were represented by three layers in which was the gap of the incision, one suture entering nearer the edge of the wound, passing down under the second line and out of the opposite side, at a point corresponding to point of entrance. A second suture entered more distant from the edge of the wound, passing down through the three lines or layers of the abdomen, and out on the other side. Dr. Waldo was positively opposed to buried sutures in the abdominal wound, because of the hiding of suppuration and burrowing of pus which sometimes formed.

Drs. Boldt and Currier believed it impossible always to prevent hernia.

Clinical Report Showing Tolerance of the Peritoneum and Nature's Kindness to the Surgeon.—Dr. Henry L. Elsner, of Syracuse, related the case of a patient who was operated upon by an expert gynecologist in New York, who removed the uterus with a fibroid and the ovaries. She suffered from a fistulous tract afterward and certain symptoms which it was difficult to explain, and it was proposed that laparotomy be again performed. This, however, was not done, and six months after the hysterectomy she discharged a large gauze pad per rectum. This had probably been overlooked by the nurse reporting all sponges and pads removed when she had counted one folded on itself as two.

Dr. Edebohls said a case had been reported in literature where a large pad had been left in and was subsequently passed at lower angle of the abdominal wound.

Dr. Boldt had within a year removed a fibroid of the uterus; the woman did well a while, then complained of griping pains, and after two months brought him a gauze pad which she had passed per rectum.

Report of Three Extra-uterine Pregnancies.—Dr. Arthur B. Breese, of Syracuse, reported the three cases. One showed probable injurious results from use of electricity, and all the undesirability of delayed operations.

Dr. von Ramdohr discussed the paper.

Double Pyosalpinx Evacuating through the Uterus; Curettage Followed by Pregnancy and Delivery of a Living Child at Term.—Dr. Edward N. Liell, of New York, reported the following case: Mrs. R. W—— was referred to me May 5, 1891. Gave a history as follows: Aged twenty-four, married; has suffered acutely since her confinement, two and a half months ago, although she had some trouble following a miscarriage three years previously. Temperature, 100⅘° F.

Examination proved the uterus to be anteverted, with considerable fixation; to the right and partly behind the uterus was an adherent mass the size of an ordinary lemon; a second irregular enlargement the size of a hen's egg was also felt to the left of the uterus; the left ovary was slightly enlarged, the right could not be mapped out. The vaginal examination was supplemented by that through the rectum, thus rendering the diagnosis more positive. The diagnosis of double pyosalpinx, the result evidently of puerperal septic infection, was made. Immediate abdominal section being refused, it was held in abeyance until such indications as might possibly make such performance imperative. Vaginal hot-water douches, sulphate of magnesia to produce watery stools, and turpentine stupes were resorted to. The daily use of one grain of morphia, which she had been subjected to for over two months, was stopped, replacing it by teaspoonful doses of bromide. Temperature reduced on fourth day to 99⅘° F.

May 11th.—I was called in haste, the patient stating she had felt a sudden sharp pain in her right side, followed shortly thereafter by a sudden gush from the vagina of a purulent liquid. Examination showed complete collapse of the mass on her right side, as well as a decidedly purulent liquid oozing from the cervix.

A similar result occurred two days later on her left side, temperature falling to 98⅘° F. the following day. Patient's condition gradually improved in every respect from this time on. The need for abdominal section had passed decidedly, her condition being favorable to a final recovery. Curettage was refused at this time, but was resorted to in March, 1893, with excellent results for six weeks following its performance. Examination developed but slight tenderness on her right side, absolutely none on her left, being at the same time entirely free from pelvic pain for the first time in four years.

Next saw the patient again April 16, 1894; had not menstruated since February 12th, flow then scant. The question of possible pregnancy arose, but was strongly doubted at the time. Examination detected an enlargement of the right tube as well as an increase in size of the uterus. Further examination, a month subsequently, showed a normal pregnancy with a recurrence of her original tubal condition on right side. Quickening was felt as late as August 1st.

December 2d.—There was a discharge from the uterus similar in character to that of May, 1891.

She was confined on December 4th, aided by high forceps, because of uterine inertia supervening. Cyanosis accompanying was due to twisting of cord about child's neck.

As to which tube and ovary were the means, in part, of her conceiving, I am not in a position to state; from the fact, however, that six weeks subsequent to the curettage, and up to and during her pregnancy, the left tube and ovary were apparently in a normal condition, while the right enlarged and gave rise to much suffering later on, the left were evidently the favored ones.

The question of a pyometra in either an ordinary or bicornute uterus, or an ovarian abscess, or hydrosalpinx was brought up, but were differentiated from.

In concluding this interesting and instructive paper the doctor suggested that though an operation may be seemingly imperative, yet it may not, at times, be unwise to accept of temporary delay, being sensible of every indication presenting.

Treatment of Colles Fracture.—Dr. Nathan Jacobson, of Syracuse, in a paper on this subject, referred to the work of Moore, of Rochester, of Pilcher and others, and said that while he had occasionally seen uncomplicated fracture of the lower end of the radius, it was not the typical Colles fracture. In the latter the ulna was also involved, or entangled, as Dr. Moore had expressed it.

In treatment, Dr. Jacobson had found no splint necessary. There must be complete reduction, then simply apply a bandage and adhesive plaster. The forearm must be carried in a sling, the weight of the hand retaining the ulna in its replaced position. In Germany they applied a plaster splint, which would account for their bad results. The fault with treatment, however, was usually due to incomplete reduction rather than to splint appliances.

Ringed Eruptions; A Study in Differential Diagnosis.—Dr. George Thomas Jackson showed lantern slides of photographs, taken by Dr. Fox, of numerous cases of ringed eruptions pertaining to ringworm,

syphilis, psoriasis, ptyriasis, and other diseases, dwelling upon points of differential diagnosis.

Effects of an Occupation upon Vision.—Dr. Lucien Howe, of Buffalo, illustrated with lantern slides the manner in which astigmatism was produced in artists. Those engaged in this line were in the habit of stepping back from their work frequently and viewing it with pinched lids, which in the course of time caused a change in the form of the cornea.

Lantern-Slide Exhibition of Photo-micrographs, illustrating the Structure of Cancer and Some other Pathological Conditions was made by Dr. John A. Fordyce, of New York.

Exhibition of Lantern Slides of Leprosy, with Remarks.—Dr. P. A. Morrow, of New York, showed a number of lantern-slides of photos of lepers, mostly of those in the colony at the Sandwich Islands. They fully illustrated the various lesions of the anæsthetic and tubercular forms, also of mixed forms. Dr. Morrow considered leprosy as contagious, although in some instances those living in intimate relationship with lepers escaped the disease. The photo was shown of the convict inoculated successfully with leprosy, the only experiment of the kind on record.

Second Day, Wednesday, February 6th.

Dr. George W. Brush, of Brooklyn, offered the following:

Whereas, The proposed legislation limiting the legal age of consent in this State to eighteen years, instead of sixteen, is a measure calculated to limit the social evil with its attendant disease and physical as well as moral degradation; therefore,

Resolved, That the proposed legislation meets with the cordial support and approval of the Medical Society of the State of New York. Adopted and referred to Committee on Legislation.

Committee to Enforce Law for Prevention of Blindness.—The President appointed on this committee—Drs. Lucien Howe, of Buffalo; H. D. Noyes and D. B. St. John Roosa, of New York; E. D. Stoddard, of Rochester; and W. C. Wey, of Elmira.

The Brain of a Suicide with Two Pistol-shot Wounds.—This paper, by Professor B. G. Wilder, of Cornell University, was illustrated by the brain itself and by blackboard drawings. A preliminary account of this case was published in the *Journal of Nervous and Mental Diseases* for December, 1894, and copies were distributed. So far as can be inferred, the first ball entered the middle of the forehead, abraded the cortex of the mesial aspect of the left frontal lobe and lodged near the precommissure. The second entered the right temple and passed sinistro-dorso-caudad, traversing the right subfrontal gyre (Broca's), the insula, striatum, capsula, paracoele (lateral ventricle), callosum, corona, and left central (Rolandic) region. The natural presumption is against the probability that two bullet wounds of the brain could be self-inflicted, and hence in such cases the suspicion of homicide might arise. In this instance letters written by the deceased shortly before the act leave no doubt as to his suicidal intention. He was a dentist, living in Ithaca, and had bequeathed his brain to the University. It presents some fissural peculiarities which will be described hereafter.

A Decerebrized Frog.—Professor B. G. Wilder, of Cornell University, had brought with him a frog from which the cerebrum was removed on the 7th of December, two months ago. Since it was devised by Goltz the experiment is common in physiological laboratories, but Professor Wilder has been fortunate enough to keep one alive for more than eight months. As shown to some members of the Society the animal seems to lack consciousness and volition, but retains not only the reflexes and other functions dependent upon the myel and oblongata, but also the power of swimming, righting itself when turned over, and maintaining its balance upon a cylinder slowly rotated. Indeed, he did this not only when the rotation induced him to creep forward; but also when it was turned in the opposite direction. He takes no food voluntarily, but swallows what is put into the throat. Professor Wilder expressed the hope that representatives of medical journals would not speak of this as a brainless frog, as did some newspaper reporters when it was shown to the Association of Anatomists at Christmas.

Treatment of Puerperal Septicæmia in the Practice of a Country Practitioner.—Dr. John Mann, of Jericho, related two cases of puerperal septicæmia, treated successfully by curette, bichloride douche, and introduction of gauze. The treatment was surgical; little reliance was to be placed on drugs.

Dr. F. W. Sears, of Syracuse, thought we must understand the different forms of surgical infection in order to treat puerperal sepsis successfully. In sapræmia, where there was retained and decomposing clots, etc., the symptoms of fever seldom began before the third day; the temperature rose fast. Such cases were usually successfully treated by a single irrigation. In true infection there was injury, the fever began earlier, but rose gradually, the treatment had to be persisted in in order to prevent further infection. Here a single injection would never cure.

Dr. A. F. Currier, remarking upon saturation of the uterus with septic matter, expressed himself against extirpation of the organ. The patient's powers were already too severely taxed to withstand the additional shock of this major operation.

Dr. Frank S. Low, of Pulaski, had never lost a woman from puerperal septicæmia. He had acted on the motto that meddlesome midwifery was bad. He did not believe in irrigation of the uterus.

One gentleman said he used irrigation for ten days after labor in all cases of midwifery, while two others opposed meddling, believing that in this way infection would be avoided. One party even discarded vaseline or any oily application to the hand or forceps.

Dr. Wilder said that as a biologist he could see no use of the finger-nails except for opening a pocket-knife, and he thought it would be well if we could get rid of this excrescence of our scratching, fighting ancestors.

No Annual Dinner.—Owing to the destruction of the Delavan House the annual dinner could not take place, but the members were invited to a reception at the Albany Club by Dr. Fox.

Report of the Medical Examining Board.—Dr. Morris Lewi read the report. The total number coming up for examination was 536. Fifty-nine of the number had come before the homœopathic board, seven before the eclectic. Of the homœopathic, twenty-two per cent. had been rejected; of the eclectic, fifty-seven per cent.; of regular, thirty-three per cent. Most States recognized a license granted by this board on account of the high grade which it required.

The board thought that after 1897 none should be allowed to come up for preliminary examination for the study of medicine who had not completed a high-school course. The report with its recommendation was adopted.

Shall Insane Criminals be put to Death?—Dr. J. B. Ransom, of Dannemora, in this paper took strongly the ground that an irresponsible criminal should not be held to responsibility and be put to death. To his knowledge there were many inmates of our State prisons, some condemned to death, who were irresponsible, and who were so when sentenced. At autopsy on such persons he frequently found meningeal change and atrophic cerebral areas.

Dr. Ransom reviewed the medical evidence in the cases of Prendergast and Mrs. Halliday, showed pho-

tos, and gave these as striking instances of irresponsibility; yet Prendergast was submitted to judicial murder, and Mrs. Halliday escaped only because the governor appointed physicians to pass upon her sanity and they found her insane.

Dr. Ransom said the difficulty lay with expert testimony, and with the court in judging of responsibility. He believed the whole system should be changed as to the manner of obtaining expert testimony, and suggested that there should be a non-partisan board, say appointed by the governor with approval of the senate, which should hear expert testimony and report to the court. This would tend to rid us of the incompetency, venality, and sensationalism connected with medical expert testimony.

Dr. H. E. Allison, of the Matteawan Hospital, said the insane in the prisons were sent to the Matteawan Hospital, to be returned when cured. Of about two hundred persons in the State under life sentence, seventeen per cent. were in that hospital as insane. Many had been sentenced to death, but the sentence had been commuted by the governor to life imprisonment. At least four per cent were sent here from Europe. Prendergast, Mrs. Halliday, and their class, committed a criminal act by reason of their insanity, and it was manifestly wrong to hold them responsible.

Dr. Carlos F. McDonald thought punishment should not be inflicted upon the insane criminal. The methods of obtaining expert testimony were radically defective, for reasons clearly set forth by the speaker. The courts and lawyers held that one was responsible if he knew the consequences of his act and that it was wrong, whereas the medical profession, advancing, considered the question of responsibility to depend on health and disease. There was a general opinion that all insane were noisy and demonstrative. In reality, few were so. Again, there was a belief that the insanity plea was often successful, but he knew personally of only two instances where the sane had escaped punishment on this plea, and those adjudged insane were seldom discharged when sent to asylums instead of prison.

Dr. McDonald did not think the execution of a Prendergast or other insane person had a deterring influence on others of their kind who felt that they had a divine commission to murder. Such persons believed themselves healthy; they did not appreciate the insanity of their purpose.

Dr. Burt G. Wilder queried what was a normal brain, and said he had been on the still hunt for one among his friends and acquaintances for some time. What was wanted for comparison was more brains of persons of known intelligence, and he had the promise of a number such. He regretted that Guiteau's brain had been cut into pieces not larger than one's thumb, destroying its value as a study in form, size, etc.

Dr. W. J. Morton had been so disgusted with the degradation of justice permitted by present methods of bringing out expert testimony, that he had ceased to go to the courts as a witness. He hoped the Society would express an opinion upon the question raised in the paper.

Dr. E. D. Fisher thought many insane were deterred from criminal acts through fear of punishment.

It was moved to refer the suggestions in the paper to a special committee, to report at the next meeting, as to change in manner of obtaining expert testimony. The motion was adopted.

Dr. Phillips had good reason to believe that England was systematically sending its criminal insane to this country. He would like the committee to investigate that subject.

Some Suggestions Regarding Medical Examiners and Inquests in Cases of Death by Violence.—Dr. S. L. Dawes, of Saugerties, in this paper presented the outline of a proposed bill to replace the present coroner system in the State, excepting New York City. It was referred to the Committee on Legislation.

Recreations in Modern Medical Science, No. 6.—Dr. John H. Doughty, of Matteawan, aroused the Society by a kind of poetical effusion with this title.

The Cure of Cancer.—When the lymph-nodes are involved. Dr. B. F. Curtis read this paper, which will appear later. It was discussed by Drs. Samuel Lloyd and Van Derveer.

Report of Committee on President's Address.—Dr. A. W. Suiter read the report. It recommended a change of time of meeting to the last Tuesday in January; that the question of the disposition of executive business be considered by a special committee to report at the next meeting; that the secretary be given authority to transfer volumes received in exchange to the medical department of the State library for more convenient reference. On motion of Dr. W. C. Wey the report was adopted.

State Examiners Recommended.—The committee recommended Eugene C. Beach, J. P. Creveling, A. W. Suiter, E. B. Angel. The report was accepted and adopted.

Report of Committee on Legislation.—The members of the committee recommended its successors to introduce a bill to secure proper penalty for the illegal practice of medicine. The report was adopted.

The President appointed as committee on recommendations contained in Dr. Ransom's paper, Drs. Ransom, McDonald, H. E. Allison, Ward, and E. D. Fisher.

State Care of New York's and Kings County's Insane Recommended.—Dr. Carlos F. McDonald offered the following, which was adopted without discussion:

Whereas, Recent investigation of the condition and management of the asylums for the insane in the City of New York has clearly shown that the system of county care, under which these institutions are now conducted, is a failure as regards its humane and economic aspects;

Whereas the same is substantially true of the institutions for the dependent insane in the county of Kings;

Resolved (essentially), That the Committee on Legislation urge legislation extending the system of State care to these counties also.

Anniversary Address by the President.—Dr. George Henry Fox chose for the subject of his address, "Credulity and Scepticism in Modern Medicine." The majority, including most of the younger members of the profession, were always ready to adopt that which was new, while the conservatives or fogies (who by the way, were not always old), were inclined to leave things as they were and do as their fathers had done before them. The spirit of the age in which we embark is carrying us all to the same goal and with the same speed. No man can escape the influence of the prevailing thought of his generation. All, whether leaders or followers, could not do otherwise than advance. Credulity existed as strongly to-day as in the days of witchcraft, and its results might appear as serious to those who should come after us. The credulity of patients was sometimes amusing, but also often lamentable. The physician often had a feeling of humiliation when he found reputation and learning wholly unappreciated by the patient. It was credulity which led the public to place faith in the assertions of charlatans, and which opposed an obstacle to higher medical education. Yet the high position of the profession to-day was largely due to recognition of the fact by the public that learning and skill were the bases of successful medicine. As long as the people liked to be humbugged there would be unscrupulous charlatans, and some physicians, to do the operation.

Dr. Fox lamented the fact that over-credulity on the part of physicians had caused the Pharmacopœia to be replaced to great extent by proprietary medicines of enterprising manufacturers, and to the billing of medical journals with articles which never would have been pub-

lished had they been held back six months. Medical journals, like preachers, often presented one side of a subject with such zeal as to make us wish to hear the other side from an advocate equally earnest

Therapeutic scepticism was commended to the younger members of the profession. Both physicians and public were to blame for the demand on the part of the latter for drugs, and their inattention to hygienic advice.

DR. SUITER offered a resolution, which was passed, directing the Committee on By-laws to investigate and report on more strict limitation of admission of delegates from incorporated societies.

The Secretary was instructed to notify the presidents of the county societies of the increase in the number of senatorial districts, which would under the law admit more delegates to this Society.

The Surgical Treatment of Empyema of the Antrum.—DR. SAMUEL LLOYD, of New York, read the paper. After referring to diagnosis, based on discharge of pus, swelling of cheek, redness of gums, absence of translucency in the affected antrum with electric light in the mouth, etc., he passed to the surgical treatment, which consisted in opening into the antrum, cleansing it and draining. Among methods of entering the antrum was that by extraction of a tooth and entering through the alveola, to which a principal objection was the small size of the opening. A larger opening was permitted under the cheek; another approach was through the turbinated bone. The suggestion to enter through the hard palate had not been acted upon.

DR. W. C. PHILLIPS would object to the use of peroxide of hydrogen, unless simply for diagnostic purposes, since if pus were present it would produce a clot which could not find escape through the natural opening into the nose. Except in chronic pus cases, he would not approve of an artificial opening.

Treatment of Blenorrhœa of the New-born.—DR. W. F. MITTENDORF, of New York, in this paper urged the necessity of attention to blenorrhœa of the new-born, since it was the chief cause of blindness. Prevention was by antiseptic midwifery and use of Credé's method, introduction into the eyes of the child of two or three drops of solution of nitric acid, one grain to the ounce. The disease having developed, irrigate the eye every five minutes during active inflammation, then keep lids from becoming glued together by very frequently introducing ointment composed of vaseline nine parts, borax one part. Use solution of nitrate of silver as soon as the secretion becomes purulent.

The Gauge of the Normal Urethra in Relation to the Permanent Cure of Urethral Stricture.—DR. CHARLES STOVER, of Amsterdam, in this paper referred to the pioneer work of Otis in determining normal urethral measurements, also to the work of White, and by clinical experience sustained the view that internal measurements should be made as giving more exact indications for cure than was furnished by estimates based alone upon the circumference of the penis.

Injuries and Hemorrhages of the Urinary Tract; Treatment and Cases.—DR. JOHN A. HEATLEY, of Schenectady, read on this subject. Little could be done by way of medicinal treatment in hemorrhage further than to enforce rest and apply cold.

Would Have Representation in the Board of Regents.—DR. A. W. SUITER offered a resolution, which was adopted, respectfully urging the Senate and Assembly to appoint a member of this Society on the Board of Regents of the University of the State of New York.

Electricity in Medicine From a Modern Standpoint.—In the absence of other authors of papers on this subject, DR. W. J. MORTON made some introductory remarks, and read two papers, one upon "Electro-Physiology," and another upon "Electro-Therapeutics." Physicians must acquaint themselves with electrical engineering, which had made such great strides of recent years, if they would understand electro-physiology and electro-therapeutics. In relation to electro-physiology the author pointed to the existence of animal electricity, to the electrical influence produced by function or irritation of muscular, nervous, secretory, and other tissues, and said, however, that such electricity was no more life than was heat attending the same phenomena. The physiological reactions produced by the current might be classed as protoplasmic reaction, nerve reaction, and muscle reaction. Interruptions of current from 2,500 to 5,000 per second produced the maximum contractile effect, while 10,000 or more only influenced nutritive changes. Alternations of 100,000 per second produced simply metabolic influence, while the same voltage and diminished alternations would produce death. No satisfactory explanation had yet been given for this phenomenon. The author thought we had here a suggestion for future therapeutics in rheumatism, gout, melancholia, etc., of possible extreme value.

Some of his conclusions on electro-therapeutics were: 1. Electro-therapeutics in a biological sense is the transformation, by the law of conservation of energies, of electric energy into the energy peculiar to the vital cells. 2. Electricity in medicine must be regarded not as an identity like a drug, but as having a variety of properties, each of which may be employed singly or combined. As to the galvanic current, strong currents depressed nutrition of tissues, produced structural changes and physiological atrophy (twenty to one hundred milliampères). Mild currents stimulated nutrition and produced physiological hypertrophy (one to eight milliampères). In inflammations he was decidedly of opinion that the negative pole should be used. Strong currents in neuritis, etc., enfeebled and did harm.

The author had obtained some brilliant results from metallic electrolysis, by which the copper or zinc electrode underwent decomposition and entered the diseased tissues under treatment and in contact with them. This method was of value in causing dissolution of trachoma, in chronic nasal catarrh, even in urethritis, etc. Dr. Morton had positive evidence of the influence of galvanism on uterine fibroids.

The paper was discussed by Drs. W. E. Ford, W. C. Phillips, Frank S. Low, and Burt G. Wilder.

The members and guests were invited to attend a reception at 9 P.M., by the President, at the Albany Club rooms.

Election of Officers.—*President*, Dr. Roswell Park, of Buffalo; *Vice-President*, Dr. Madden, of Brooklyn; *Secretary*, Dr. F. C. Curtis, of Albany; *Treasurer*, Dr. Charles H. Porter, of Albany.

A Medical Philanthropist.—We have received intelligence of the death of Dr. Tourasse, of *Saint-Maur-les-Fossés*, where the inexhaustible philanthropy of our *confrère* had grown into a proverb. He treated the indigent, for the most part, and would never accept a fee: a method of carrying on a practice sure to bring in plenty of patients, and never a lawsuit. The following anecdote is a favorite with Dr. Tourasse's friends: "A few years ago a workman in the Gravelle iron-works had his lower extremities crushed beneath a mass of metal. Our doctor having successfully amputated one of the damaged limbs, gave the unfortunate man twenty francs to buy himself an artificial leg; but the following day, when he paid his customary visit, instead of finding his patient with a wooden stump, the wretch was completely drunk, having spent every farthing in liquor. Without saying a word Dr. Tourasse immediately took train to Paris, purchased an apparatus, and returned in order to apply it with his own hands. M. Tourasse died a pauper. The Municipal Council of *Saint-Maur*, in recognition of the noble character of the deceased, have accorded a 'gratuitous concession' to his remains!"—*Journal de Médecine.*

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL SURGERY.

Stated Meeting January 14, 1895.

B. FARQUHAR CURTIS, M.D., CHAIRMAN.

Exstrophy of the Bladder.—DR. ROBERT ABBE presented three cases of exstrophy of the bladder. The treatment of this condition, he said, was rather trying, but he thought the technique could be improved and better results obtained. One of the three children shown illustrated a minor degree of the malformation. Another had complete exstrophy, the third had been markedly improved by the treatment, which was still being carried out. In the more marked case the dorsum of the penis was split, the symphysis was separated to the extent of admitting three fingers side by side, the anterior abdominal walls were absent to above the umbilicus, the posterior wall of the bladder and lower end of the ureters presented. In the case in which treatment had been begun he had adopted the method of Trendelenburg, separating the sacro-iliac synchondroses and applying pressure so as to bring the pubic bones nearer to each other and thereby diminish the opening preparatory to a plastic operation anteriorly. Dr. Abbe could see no reason why, with extensive freshening of the skin at the sides and inversion, and perhaps the use of heavy mattress quilting suture, the sides of the opening could not be brought together.

Reproduction of the Entire Tibia after Necrosis.—DR. J. E. H. NICHOLS presented a girl, over twelve years of age, whom he had treated when seven years of age for phlegmonous cellulitis following a blow upon the tibia. A pus cavity existed when he saw her, which he opened. But caries went on until the entire tibia was shelled out. The child was kept in bed fourteen months, at the end of which time the tibia had reproduced itself from the periosteum and she could walk perfectly.

A Useful Arm without Bony Connection at the Shoulder.—DR. BLAKE presented a man who had been operated upon when two years of age for complete removal of the shaft of the humerus. He was now twenty-two years of age, had a well-developed forearm ; the upper arm was short, little of the shaft was present, the lower epiphyses were apparently of normal size and form, there was little if any of the upper end of the humerus, and the lower end was separated from the shoulder by a gap of about an inch. This permitted of voluntary and passive flail motion. Yet the muscular development and control was such that the man had complete use of his arm for all sorts of work, laborious or otherwise.

Cases of Excision of the Knee-joint, with Remarks on the Indications for Operation.—DR. ARPAD G. GERSTER presented three adult patients, and had expected a fourth to be present, on whom he had excised the knee-joint for tuberculosis within the past six weeks. He had kept records of sixty-nine cases so operated upon during the last seventeen years for tuberculosis. The cases presented were intended as a text in speaking of the indications for excision in this disease, of the operative treatment, the after-treatment, and the results. As long as there was progressive tuberculosis present in such cases, and absence of bony anchylosis, the patients remained invalids and suffered more or less with almost every jar. They had to go about with a cumbersome apparatus, and never stepped over a curbing without fear of provoking pain and injury which might lay them up for weeks. Whether rich or poor, their lives were miserable and wretched. Of the large number of cases operated upon by him, in not one had he found bony anchylosis.

The point which Dr. Gerster wished to particularly emphasize was the fact that the proper treatment of these old cases of tuberculosis of the knee was not orthopedic, but operative. There was no doubt on that point in his mind. All the cases shown had followed the rule, suffering little pain after excision, being able to sit up at the end of a week, and going about on crutches by the end of five weeks. They would soon have rigid bony anchylosis, and become useful members of society, free from pain and able to earn their living the remainder of their lives.

Speaking of the pathology, Dr. Gerster divided the cases into those of incipient tuberculosis of the knee-joint, and those in which the disease had advanced further, destroying the cartilaginous surfaces and involving the bone. In the latter class there were usually a number of cicatrices from old abscesses and sinuses, and new sinuses continued to form. In another form the disease commenced in the synovial membrane, and when advance caused peri-articular deposits, but the bone might not be involved. They were the cases of cold abscess which the surgeon was liable to open and add another form of suppurative action. It was a form of mixed tubercular infection frequently seen in hospitals twenty years ago, but seldom seen at present. As long as the disease was limited to the joint, excision was the proper treatment, removing the diseased tissue down to healthy bony surfaces, placing these in apposition, applying a splint, and thus securing bony anchylosis and complete cure. It was necessary to search for every pocket of pus, and remove all pyogenic membrane. If the knee were honeycombed with diffuse suppuration he advised against excision.

Infection following the operation was very rare when the Esmarch constrictor was used to cut off the circulation while operating. Dr. Gerster had lost no cases from the operation itself, and only two from distant tuberculosis, which may have been induced by manipulations during excision.

There were some cases of acute tuberculosis of the knee-joint which it was difficult to distinguish from rheumatism. The fever, however, was remittent, and the characteristic course of acute rheumatism was lacking. In operating Dr. Gerster made a transverse incision above the patella, extirpated this, sawed off the epiphyseal ends of the bones, giving attention to the proper plane. The inner side of the femur should be left a little longer than the outer in view of the natural position being that of moderate knock-knee. He did not approve of removing the constrictor before ligating the vessels. For convenience he inserted a nail into the ends of the bones. A veneer splint, not plaster, was used. Consolidation had failed to take place in only one of his cases. This patient could walk comfortably with a light support.

Discussion on the several cases presented was then called for. The CHAIRMAN (Dr. Curtis) inquired whether any of the members had had experience with the treatment of exstrophy of the bladder, or rather of the separation of the pubes which existed in that condition, by keeping the child lying on its back in a trough, without division of the sacral ligaments ; or, on the same principle, by applying a rubber bandage around the pelvis.

DR. W. W. VAN ARSDALE queried whether extension had been practired in the case of non-reproduction of the shaft of the humerus, and said that even where periosteum had not been destroyed it was necessary to keep up extension in order to avoid shortening, and even to secure reproduction of bone. But with all precautions there was some shortening in about fifty per cent. of the cases of acute osteo-myelitis in children, and in some instances there was entire failure to reproduce bone.

DR. A. M. PHELPS made some remarks upon excision of the knee. Clinical experience had demonstrated that under the eighteenth year of age cases did not do so well if treated by excision. Where sinuses and abscesses existed one should open into the joint, and decide at that time whether excision should be done.

Old cases of constantly relapsing tubercular disease with fibrous anchylosis of the knee were, in his opinion, suitable for excision. By rapid operative work, shortening the duration of anæsthesia, and avoiding loss of blood the mortality-rate had been reduced to about three per cent. He performed Fenwick's operation, and had succeeded in completing it in fourteen and even in ten minutes from the time of the first incision to the last bandage. The bones were cut wedge-shape so as to lock into each other, thus preventing slipping by, without the use of nails. He had operated in sixty-eight cases. One patient had died while under ether; another of sarcoma, showing that the diagnosis of tuberculosis in that instance was a mistake; two or more died, after a year or so, of tuberculosis.

DR. DAWBARN suggested the use of the coarse file where the plane of the sawed bones was not quite right.

THE CHAIRMAN had not seen much loss of blood from the open method, and where hemorrhage had been considerable it must have been due to some abnormal condition. Nor was there greater danger of infectious matter entering the circulation than where the vessels were ligated before removal of the rubber bandage. He had used nails for the same reason Dr. Gerster had given, but recently he had had a case showing that they might be absolutely necessary in order to prevent separation by muscular spasm while redressing the limb.

DR. KAMMERER said that while in this country purely synovial cases were frequent, he had never seen an instance abroad in which a tubercular focus had not been found in the bones of the joint.

DR. GERSTER expressed surprise that Dr. Phelps was able to do Fenwick's operation in fourteen minutes, and, presumably, also clean out all foci of infection, as it was necessary to do in order to obtain a successful result. As to the open method, he had had hemorrhage from it, and had seen hemorrhage in the hands of Dr. Sands and others. The constrictor should not be applied too tight, lest a deluge of blood should follow its removal because of vasomotor paresis.

A Subgluteal Triangle and its Surgical Importance.—DR. RAMON GUITERAS read the paper and demonstrated the triangle by diagram and on the cadaver. The apex of the triangle was below at the intersection of the biceps, the gluteus maximus, and the vastus externus. Along the inner side was the long head of the biceps, above was the pyriformis, at the outside perhaps the short head of the biceps and the gluteus maximus. Within it were the great sciatic nerve, a little to the inner border; the sciatic and pudic arteries; two or three bursæ. The surgical importance of the space related chiefly to stretching the sciatic nerve, which was done little at present except for relief of pain, etc., in leprosy. There might be aneurism or hemorrhage of the sciatic or pudic artery; rarely pus from Pott's disease took this course; hernia of the pelvic viscera was likewise rare; inflammation of the bursæ might require surgical interference; the triangle bore important surgical relations to the hip-joint.

DR. WOOLSEY thought the triangle had really four sides, although two formed nearly a straight line externally. The short head of the biceps did not always come up to the gluteus maximus. The fold of the nates had little to do with the border of the gluteus maximus, but was due to extension of the limb. One should bear in mind the possible bifurcation of the sciatic nerve. The gluteal artery, which was above the pyriformis, was more often the seat of aneurism than the sciatic artery which lay in the triangle. In either case the aneurism was hard to treat surgically because of the shortness of the trunk. The internal pudic could be pressed against the pubis. Abscess here was not likely to be that of hip-joint disease, but he had seen it from sacro-iliac disease, which he believed was more common than was generally supposed.

DR. DAWBARN still believed in stretching the sciatic nerve for obstinate sciatica. He had never seen a man able to break the nerve by pulling upon it. The traction should be upon the proximal end, and should be equal to fifty pounds. He could tell at once in cutting down upon it which of the two muscles, the gluteus maximus or the biceps, he had struck, by observing the direction of the fibres; if toward the fibula, he was a little too low; if toward the tuber ischii, a little too high.

DR. MCGRATH thought there was every reason for calling this region a triangle, which it was in fact, and by so designating it its importance was much more firmly impressed upon the minds of students. He had seen sarcoma operated upon in this region in one case.

Modified Murphy's Button.—DR. LILIENTHAL showed a modified Murphy's button which he had made with a view to preventing it from falling back into the stomach in gastro-intestinal anastomosis. The stomach half was made larger than the intestinal half or section. He had not yet had occasion to employ it.

THE CHAIRMAN suggested what appeared to be a fatal objection to the change, namely, that if the button at present in use were made larger at one end it would not pass through the intestine, and if made smaller it would not establish a sufficiently large opening.

Election of Officers.—Dr. B. F. Curtis was re-elected Chairman, and Dr. Royal Whitman, Secretary.

SECTION ON GENERAL MEDICINE.

Stated Meeting, January 15, 1895.

W. H. PORTER, M.D., CHAIRMAN.

The Pathology of Appendicitis.—DR. ROBERT T. MORRIS opened the discussion upon the above subject, and exhibited a large number of specimens to illustrate the various conditions of the appendix in its pathological changes. He said the first phenomenon in appendicitis was the formation of an infectious atrium, which might be excited by concretions, twisting, injury of the mucosa, traumatism from the contracting uterus in childbirth, etc. When the mucosa had been broken the bacteria which existed within the lumen increased rapidly and their toxins produced a series of secondary phenomena. First, was a serous exudate and the stimulation of Auerbach's plexus. The result of the exudation was compression of the mucosa and inner coats, causing them to swell and become compressed between the outer coats and the peritoneum. The stimulation of the branches of Auerbach's plexus caused spasms of the muscular coats of the intestines, thence of the abdominal walls. Through sympathetic stimulation the heart contracted rapidly, the arterial coats were stimulated, and through stimulation of Auerbach's plexus the clonic contraction of the appendix continued. The two mechanical factors were the compression from the exudate and the muscular spasm closing down upon this inner tube. The result of this compression was, first, the cutting off of the lymph, then the compression of the capillaries, and as the appendix had but one artery collateral circulation was impossible and the swollen organ projected like a peninsula. Thus the leucocytes could not gain free access to the bacteria, and the latter developed and destroyed the appendix to various degrees. When the small arteries were occluded and the nourishment was shut off, the infection was generally mixed and the streptococcus took the lead.

Foreign Bodies in the Appendix.—In discussing the subject DR. A. M. PHELPS said that he was much interested in the description of the blood-supply of the appendix, and the idea that the etiology was something that developed in the appendix and not something that got into it; yet he had seen a case where the appendix was removed and on examination he found a pin within the portion removed.

Conservative Treatment.—Dr. Thomas H. Manley said that he considered the pathology of appendicitis still a mystery, and the subject was to be regarded from the stand-points of constitutional and local changes. The question of local changes had been well sifted, and if this were all that was to be considered, it was a surgical disease. It had been his impression that acute cases could be controlled by vigorous treatment, and that surgical interference was necessary only in very serious cases. The question arose, Was not this a local manifestation of a general condition; was it not tubercular when not traumatic; was it not a latent type of syphilis; a local germ with a local action, brought on by certain conditions of nutrition? Dr. Manley said that he had treated five cases with mercurials during the past year and all had recovered. He had found the conservative treatment of appendicitis the most successful. He cited two cases of appendicitis from traumatism; one in a woman whose appendix was bruised in childbirth, the other in a lad who had been struck with great violence.

Appendicitis a Simple Inflammation.—Dr. L. T. Bishop said that the pathology of appendicitis seemed a simple matter when considered on the same basis as an inflammation in any other part of the body. There was the small canal, lined with a mucous membrane and covered by a serous coat, in which there was inflammation. The product of that inflammation might vary the same as in similar structures in any other part of the body, as, for example, the antrum of Highmore. If there were bacteria present, there would be infection upon interruption of continuity of the part, or upon irritation causing favorable conditions for their development. The rest of the pathology followed naturally, the suppurative inflammation extending to the serous coat, and peritonitis resulting.

Rheumatism and Gout as Factors in Appendicitis.—Dr. S. H. Dessau said that he wished to mention also the effect of rheumatism and gout in the pathology of appendicitis. These affections had a great influence on the history of many other diseases, and it seemed quite probable that they exerted no small influence in appendicitis. It seemed quite evident that appendicitis was much more prevalent now than formerly, and there must be some reason for it. He thought that Dr. Manley had struck the right method in conservative treatment. In his practice he had for six years used calomel in appendicitis with good results. It had the desired effect upon the inflammation, and also kept the bowels in favorable condition. The patient was kept entirely at rest and given one-tenth of a grain of calomel every hour for seven or eight hours, and then the dose was repeated every two hours.

Does not Favor Conservative Treatment.—Dr. A. M. Phelps said that if he had an abscess within his body he would not expect mercury to have much effect on it. He did not believe that germ-life began by destroying the mucous membranes. There must be a lesion. It was impossible to tell when there was going to be a suppuration, and the operation should be done at once. He watched the case, and when there was chill and rapid rise in temperature, he operated. There was no great danger if the operation were performed in time, and the mortality ought not to be more than two per cent. A vast majority of cases went on to abscess, and if not operated upon many of them relapsed. If he got a third relapse he always operated.

In conclusion, Dr. Morris said that concretions were very common, but bacteria was the important factor, while concretions might pave the way. Many of his patients had developed appendicitis after injuries. He thought the appendix became displaced, or dislodged and twisted, and the twist caused injury and dammed the mucus. He had found dammed mucus behind the twist without infection. As to the colon bacillus, this was found all over the body at times, but it belonged during life in the colon. When anything dead was about, the saprophytes and colon bacilli seemed to marry and go on an excursion hand in hand. He believed it was better to isolate the infected part, which meant operation, but if a diagnosis could not be made, no operation should be performed.

Election of Officers.—Dr. William H. Porter was re-elected Chairman, and Dr. W. Le Boutillier, Secretary.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Annual Meeting, January 21, 1895.

S. B. Wylie McLeod, M.D., President, in the Chair.

Election of Officers.—The following officers were elected: *President*, Dr. S. B. W. McLeod; *Vice-President*, Dr. A. D. Ruggles; *Recording Secretary*, Dr. P. B. Porter; *Corresponding and Statistical Secretary*, Dr. N. G. Bozeman; *Treasurer*, Dr. J. H. Hinton; *Member of Executive Committee*, Dr. T. H. Burchard.

Treasurer's Report.—The annual report of the Treasurer, Dr. Hinton, showed receipts for the year to the amount of $1,931, and disbursements to the amount of $1,765. The balance in the treasury was $166. The cost of the refreshments had been $293; rent, $225.

Report of the Corresponding and Statistical Secretary.—Dr. Van Arsdale's report showed a membership at the commencement of the year of 951, of which number 50 had been lost by removal, death, and other causes; one member had been expelled. Adding to the list the new members, the present number was 1,006.

Report of the Committee on Public Health.—Dr. T. H. Manley presented the report. While little that was new had transpired during the year to which further attention need be called, he said the present year promised a new epoch in New York. He referred to the proposed change in the Police Department, with the probability that the number of surgeons would be reduced; to the bill substituting medical examiners for coroners; and read the resolution adopted at the Academy of Medicine recommending the burning of garbage. On motion, the Association endorsed these resolutions.

The thanks of the Association were tendered the retiring Statistical and Corresponding Secretary, Dr. W. W. Van Arsdale, who had on account of other duties declined a renomination. The usual collation was then served.

The International Congress for the Treatment and Protection of Infancy will be held next year in Florence, and the organizing committee there are already receiving intimations from the physicians and surgeons of other nationalities signifying their intention to take part in the proceedings. Austria will be strongly represented, and communications are announced from her delegates on Children's Hospitals, Deaf-mutes, Blind and Idiot Children, Hospitals and Asylums for the Scrofulous and Rachitic, Correctional Establishments, Foundling Hospitals, Kindergarten, and Orphanages. The Vienna committee from which these contributions emanate includes the well-known names of Professor Wiederhofer, Count Falkenhayn, Baron Spinger, Geheimrath Dr. Kusy, Councillor Theimer, Dr. Gnädinger, and Professor Monti.

Recrudescence of Cholera.—Nearly two hundred soldiers of the Prussian Army in garrison in a town of Silesia were taken ill not long since with symptoms of cholera. One of the government bacteriologists has been sent to determine the exact nature of the disease, whether genuine cholera or acute diarrhœa.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

CYCLING AND HEART DISEASE—PATHOLOGICAL SOCIETY'S EXHIBITS—COMING DISCUSSION ON PNEUMOCOCCI AND IMMUNITY—CLINICAL SOCIETY—THREE RARE ABDOMINAL SECTIONS AND RECOVERIES—LOCULATED EMPYEMA—THE COMMITTEE ON ANTITOXIN.

LONDON, January 19, 1895.

THE effect of cycling on the health is a subject of interest to a large section of the public, and wheelmen who do not go in for racing or record-breaking are unanimous on the benefit of this mode of exercise. There have, however, always been misgivings as to the effect on the circulating organs. These Sir B. W. Richardson, who is himself a veteran wheelman, endeavored to set at rest at the Medical Society, on Monday last, in a paper on "Cycling and Heart Disease," in which he discussed the effect of this exercise at the time, and such after-effects as may be met with in the consulting-room. He found that the immediate effect was to raise the pulse more than any form of exercise, as much as from 65 or 75 to 200, and though this fell somewhat after a time, a very high rate continued as long as the exercise was kept up; yet he had never seen a rider embarrassed by faintness, breathlessness, angina, or vertigo so as to be obliged to dismount, but he had known a man who could climb a hill on his machine though he could not go upstairs without palpitation. He had known cases in which after a number of years of cycling there was some cardiac disease. On the other hand, he had seen benefit from the exercise in varicose veins, fatty degeneration, and anæmia. Cycling, then, may benefit a feeble circulation if the arteries are sound, and it would seem a safer exercise than Hirtl's hill climbing. Three things were pointed out as most injurious, viz., straining to climb hills or to meet head winds; excessive fatigue; alcoholic stimulants and the omission of light, appropriate, frequently repeated foods.

Some interesting observations were made in discussing this paper, and there seemed a concurrence of opinion in favor of moderate exercise on a tricycle even when the heart is diseased. This, too, was held to be the best form of exercise that could be taken as a therapeutical measure in cardiac disease. On Tuesday last, (15th), the Pathological Society held a meeting, and many interesting specimens were exhibited, including five brains from insane patients; serous pachymeningitis with atrophy of some of the cerebral convolutions from a syphilitic child, aged nineteen months, and some slides from two cases of mammary cancer, which at one end presented the appearance of so-called "duct-cancer." This exhibit led to some conversation on the use of this term, from which I gather that pathologists might be more precise in the use of terms—not a few of which are too often applied by different observers in by no means the same sense.

It was announced that on February 5th Dr. Washbourn will open a discussion on "Pneumococci in Relation to Immunity."

At the last meeting of the Clinical Society of London, held on the 11th inst., Mr. A. W. Mayo Robson related three cases of abdominal section for unusual conditions, all followed by recovery. The first case was one of tubercular abscess of the liver, treated by incision, rubbing in iodoform, and drainage. The patient, whose illness had extended over twelve months, and who was reduced to an extreme degree of weakness, has completely recovered his health. The case, as well as the treatment adopted, was certainly uncommon. The second case was one of volvulus and strangulation of the omentum following on the reduction of a large inguinal hernia. Peritonitis led to the suspicion of reduction *en masse*. Abdominal section revealed the whole of the omentum in a state of deep congestion verging on gangrene, connected by two twisted cords with the stomach above and the left inguinal cord below. The case was unique. The third case was one of traumatic intra-peritoneal hemorrhage without external wound, in which the patient was in so serious a condition that exploration to reveal the actual site of the hemorrhage would probably have led to death on the table; incision, washing out with hot saline solution, and drainage arrested the bleeding and recovery ensued.

The President, Mr. Kulke, said that in the post-mortem room he had never met with a large, solitary, caseating tubercular mass in the liver unaccompanied by tubercular manifestations elsewhere. He had also never seen or read of such rotation of the omentum as was present in the author's second case. There was scarcely any viscus, except the brain, in which rotation had not been observed, and it was frequently observed in connection with floating kidney with long stalk, and wandering spleen, and he mentioned several cases.

Mr. Croft mentioned that on one occasion he had removed a spleen in order to arrest hemorrhage from it, the abdomen at the time being full of blood. The patient was apparently on the point of dying of collapse, but lived for some hours. He thought it was a mistake to delay ascertaining the exact source of hemorrhage. If it proceeded from such an organ as the spleen, the chances were slight of its spontaneously ceasing. In all such cases an exploratory operation should be performed at the earliest possible moment.

Mr. Battle said as tubercle bacilli were found in the abscess contents, but nothing like ray fungus, and there were no signs of rupture of a viscus, it was quite impossible to say where the hemorrhage came from. He had had at St. Thomas's Hospital a boy who fell on his face while playing at leap-frog, and was brought in with symptoms of intra-peritoneal hemorrhage. There was intense shock, and a dull area on the left side extending as far as the left linea semilunaris. He had been vomiting, and there was still some vomiting, but no rigidity of the abdominal muscles. The dulness in the abdomen gradually extended until it reached the right linea semilunaris. The boy recovered. He had no idea where the blood came from, but he thought it might be from a torn mesentery. He raised the question as to what symptoms are to be held to justify laparotomy forthwith. Would tympanites? He thought it would.

Mr. Mayo Robson, in reply to other questions, said he did not think there could be any doubt as to the tubercular nature of the disease in the first case. Tubercle bacilli were found in the abscess-contents, but nothing like ray fungus. The patient was ultimately discharged as cured, and there was no trace of disease anywhere. With regard to the second case, he thought it was very difficult to account for the rotation. If in his third case he had tried to find the source of the bleeding, he felt sure he would have lost his patient; even flushing the abdomen was sometimes followed by shock.

Mr. Frederick Eve related a case of acute intestinal obstruction by gall-stone for which he did laparatomy and removed the stone, recovery following. After the operation it was elicited that eighteen years previously the patient had been subject to severe attacks of pain in the epigastrium, sometimes accompanied by vomiting. For seven or eight years he was never entirely free from pain, but about once a week had a severe attack. Ultimately the pain and attacks of vomiting ceased quite suddenly. He had never passed a gall-stone. This trouble may be referred to the presence of a biliary calculus in the gall-bladder, and the sudden cessation to its passage into the duodenum; so that it may be inferred that the calculus had occupied the intestine for some ten years—a circumstance not

without precedent. Mr. Eve offered the following suggestions: 1. When a diagnosis is possible expectant treatment should be tried, as one-third of the cases of marked obstruction from gall-stone recover without operation. 2. Operative interference should not be long delayed, as the patients are nearly all aged, the mean age being sixty-four years. 3. After opening the abdomen the calculus should, if possible, be forced through the ileo-cæcal valve. 4. If the calculus be immovable, or at a distance from the valve, and the intestine be healthy, the stone should be excised. 5. When the intestine is inflamed, and the stone immovable and adherent to it, an attempt should be made to break the calculus up with needles. This failing, it should be extracted, the intestine fixed to the abdominal wall near the wound, and surrounded with iodoform gauze. 6. In only one case out of twenty-seven was it found necessary to resect the intestine on account of ulceration. These conclusions met with approval, but serious doubts were expressed as to the propriety of needling.

Mr. W. J. Browne related a case of empyema attended with unusual difficulty of diagnosis.

The President announced that the following gentlemen had been appointed members of the committee to inquire into and report upon the antitoxin treatment of diphtheria: Messrs. Couper, Goodall, Thorne Thorne, Gee, S. Martin, H. D. Hawkins, Hale, White, Washbourn, and Pasteur. Sir J. Lister had been invited, but was unable to join.

New Instruments.

AN ASEPTIC ANTITOXIN SYRINGE WHICH MAY BE THOROUGHLY STERILIZED.

By EMIL HOTZEN, M.D.,

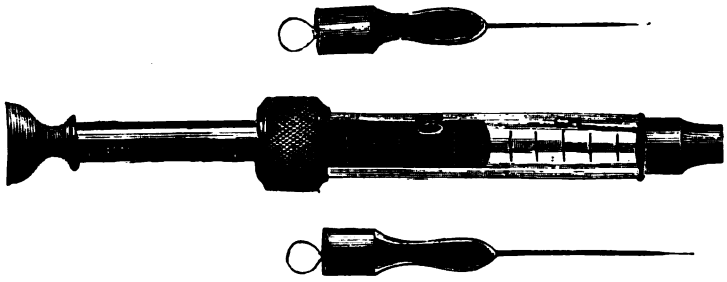
PHYSICIAN TO THE DEPARTMENT FOR DISEASES OF CHILDREN, GERMAN DISPENSARY, NEW YORK CITY.

A HYPODERMATIC or aspirating syringe, which can be rendered absolutely aseptic, without deterioration, is a desideratum which has, so far, not been offered.

I believe that the instrument I have devised, and which is here shown, will fill this want. It consists of a glass barrel, graduated, to the lower end of which is fastened a cap, for the reception of the needle, which is fortified by being attached to an elongated steel knob, which fits snugly into the capping. The other end of the barrel is supplied with a band of metal, which is threaded, so as to receive the screw cap that serves to hold the piston in place. In this screw cap is placed a circular disc of cork, which answers for packing, and contracts or expands as the screw is tightened or loosened, thus controlling the movement of the piston within the barrel. The piston consists of a hollow metal cylinder, fitting snugly within the barrel, and is supplied with a thumb handle.

From this description it will be seen that the complete syringe consists of only five parts—the glass barrel, cylinder piston, needle, screw-cap, and its cork disc, all of which are detachable and may be subjected to the action of boiling water or steam without being damaged. The threaded band and cap of the barrel are not cemented on, but are fitted on the glass while at a high temperature, as a tire is fitted on a wheel. Should the cork disc become softened or otherwise unfit for use, it may be discarded and another substituted, as several are supplied with each case.

Accompanying each syringe is a metal clamp, with a fenestra at each end to hold the needles, two in number. On the under surface of this contrivance is a



third clamp, which holds two or three cork discs, always ready for use.

The syringes are made in two sizes; No. 1, for ordinary hypodermatic use, morphine, etc.; No. 2, a large size, for antitoxin injections, aspirating, etc. Each is fitted snugly in a metal case; the hypodermic may be carried in the vest pocket without any inconvenience.

The instrument is made by Richard Kny & Co., of this city.

59 SEVENTH STREET.

A NEW STERILIZER.

By CARL BECK, M.D.,

NEW YORK.

THE chief disadvantage of all sterilizers of value now in use is their size, which makes it inconvenient to carry them to operations. Most operations require a sterilizer of considerable size. Small apparatus, so-called "pocket sterilizers," allow only sterilization of a few sponges and boiling of the instruments. To remove this difficulty I have devised a folding apparatus, the separate parts of which can easily be put together.

The lower division, which is also the smallest one, consists of a reservoir, which is filled half full with a solution of soda. A wire net, on which the instruments are laid, fits into this reservoir, which fits into the next division of the sterilizer, which again fits into the larger division. If desirable a fourth division can still be set up. The wire sieves can be inserted into the projections of the walls of the division below the reservoir, to receive the dressings, towels, sponges, etc. To

the lower division two folding stands are attached, between which is placed the alcohol lamp when in use. The protection of this lamp is obtained in such a way as to allow of its being carried with safety when it is filled with alcohol. Besides the regular paraphernalia, that is, the alcohol lamp, the wire sieves for the dressings and the wire net for the instruments, two hooks for pulling out the latter and the thermometers, a few instruments, silk, etc., find ample space in the lower division.

So, when division *a* of a medium-sized apparatus is inserted into *C*, and *C* into *c*, and the latter is covered by the lid (*d*) the height of the folded apparatus, amounts to 6 ctm. This is less than one-fourth of the height of the whole apparatus, which, when ready for use, amounts to 27 ctm. After being folded together the sterilizer can either be put into an instrument-bag or can be carried under the arm as it is. Temperature is indicated by the thermometer, which is fitted into an opening in the lid; two quarts of water after eight minutes can be heated so far as to fill the whole sterilizer with steam of a temperature of 100° C. (212° F.) Anthrax spores, dried on silk ligatures, showed no cultures after they had been exposed to the steam for fifteen minutes.

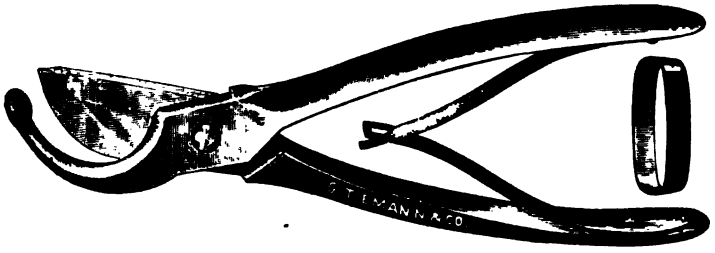
The apparatus is made by Th. Schuaker, of Heidelberg (Germany), and can be obtained from R. King & Co., of New York, in four different sizes.

A NEW RIB SHEARS.

By D. St. JOHN, M.D.,

SURGEON TO THE HACKENSACK HOSPITAL, HACKENSACK, N. J.

The following illustration represents a pair of rib shears in which I have aimed to combine strength, ease of cutting, and safety, in a simple and perfectly aseptic instrument. The cutting edge, comparatively short and of pronounced curve, does not crush the rib as does a straighter blade or a bone forceps, but cuts more like a pruning-knife. The lower blade is curved to more closely apply itself to the rib to be resected, and does not impinge on the adjoining rib. The end is probe-pointed, so that the lung and pleura are not endangered in its introduction. The strength of the blade is in its width, that the thickness may not tear the periosteum from the bone which remains after resection. The curve also allows the blade to dip down (desirable in fleshy subjects) and this admits of the



handle being nearly horizontal, where the operator can exert the most force. The blades are separable and the springs are attached by the same kind of lock.

To Mr. J. A. Pharre, of Tiemann & Co., I am much indebted for suggestions as to spring lock and for so neatly modelling the instrument.

A MODIFIED BIVALVE NASAL SPECULUM AND A MODIFIED BOSWORTH NASAL SPECULUM.

By SAMUEL GOLDSTEIN, M.D.,

ATTENDING PHYSICIAN TO THE NEW YORK THROAT AND NOSE HOSPITAL.

The bivalve speculum in use consists of two blades riveted together, and a screw attached to a horizontal bar on the lower blade, fig. 1. This instrument cannot be taken apart for cleaning. I have modified it with that end in view. This speculum has two small pivots on either side of the upper blade, the lower blade having a perforation on each side to fit the pivot. The screw has a hook-like process that fits over the horizontal bar of the lower blade. To take the speculum apart, slip the lower blade by springing the right side of the pivot toward the distal end of the speculum. The screw bar can then be removed.

I have also modified Bosworth's nasal speculum, fig. 2, so that it can be taken apart for cleaning. This instru-

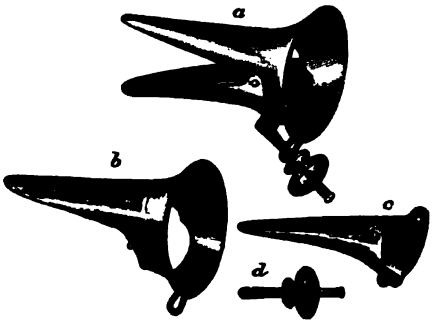


Fig. 1.

ment in its present form consists of two flanges riveted at their distal ends. I have had a reinforced joint

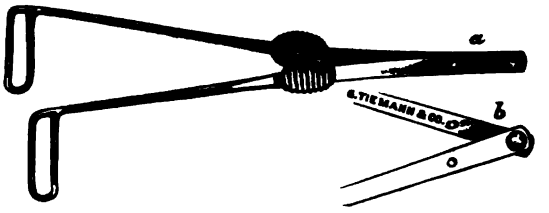


Fig. 2.

made at the distal end of the speculum. The one flange can be lifted, rotated, and thus detached from the other.

These instruments were made for me by Messrs. George Tiemann & Co.

166 East Ninety-third Street.

AN IMPROVEMENT TO JAVAL'S OPHTHALMOMETER.

By FRANCIS VALK, M.D.,

NEW YORK.

In the manufacture of the ophthalmometer of Javal it has been necessary to so fit the barrel of the telescope that it may turn in the upper part of the stand tightly, so that the arc will remain in any position of the circle in which it turns. To accomplish this, the barrel has been carefully ground so that it may exactly fit into the stand, and is then to be turned to the different positions, as that of the first or second, by placing the hand upon the smaller part of the telescope and then turning it to the right or left as may be required.

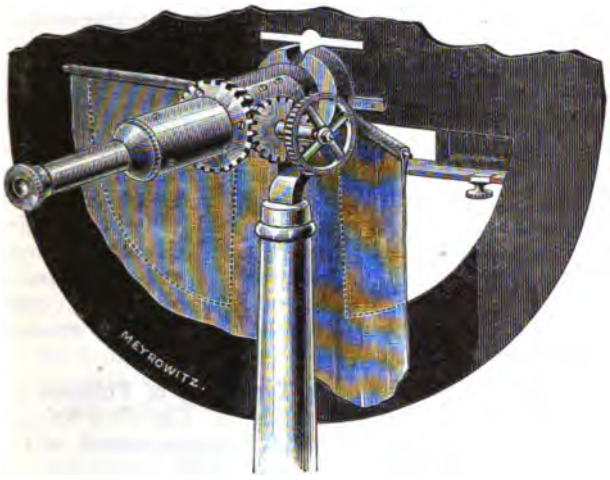
In using my own instrument and those of others I have noticed that the telescope will seldom, if ever, turn smoothly, but will seem to catch or stop, and then by the application of more force we are apt to carry the arc too far beyond the position where the lines on the mires will be continuous, so the arc must be turned back again. This makes it somewhat difficult to always place the arc in the exact position that we wish it, particularly so when the first position may be at some other point than that of ninety. At the same time the constant application of the hand to the polished barrel of the telescope will soon cause it to tarnish.

To obviate these objections I requested Mr. E. B. Meyrowitz to place on the barrel of the telescope a large bevelled gear, fastened securely by four screws, acting upon this, and at right angles to it, we have a smaller bevelled gear, turning on a pinion fastened to a plate, attached to the barrel of the upright part of the stand by four screws. This smaller gear is about one inch in diameter, and is attached to a large milled head about two inches in diameter, so as to be easily turned by the right hand, as the ophthalmometer is used.

By the attachment of this gear motion the barrel of

the telescope is so ground as to turn loosely yet perfectly in the barrel of the stand, and is held firm in any position in which it may be placed by the cogwheels; at the same time it is easily turned by the large milled wheel.

In using the ophthalmometer the position of the arc



can be readily and quickly adjusted to any point or degree on the circle, as we watch the pointers in the refraction on the cornea, and will remain in that position until we desire to turn the arc to the second position.

The above cut will readily show the position of the bevelled gears and the milled wheel for the hand, and their action on the barrel of the telescope.

Since I have had this attachment placed upon the ophthalmometer in use at my clinic at the New York Post-Graduate School, I have been very much pleased with the ease with which the arc is turned, and I consider it a very useful mechanical addition to an extremely useful instrument in the office of the ophthalmologist.

This attachment has been so arranged that it can readily be placed on any of the ophthalmometers now in use, and can be fitted and attached on very short notice, and in a very short time; while the cost is so moderate, considering the increased ease and accuracy with which the ophthalmometer can be used, that I consider it well worthy of examination and trial.

163 East Thirty-seventh Street.

A RECTO-SIGMOID SPECULUM.

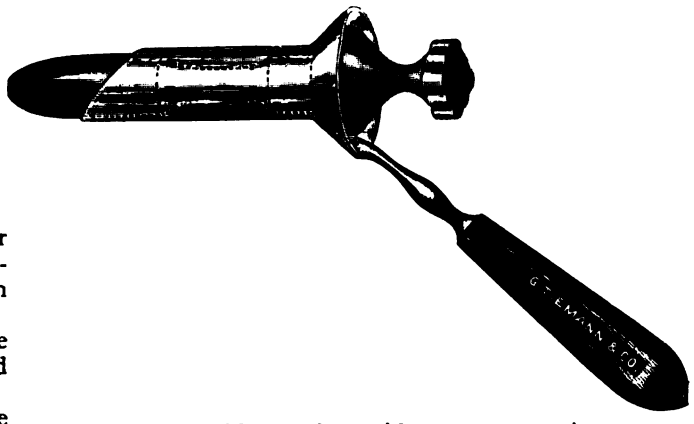
By THEODORE L. ADAMS, M.D.,

PHILADELPHIA.

After several months of constant work with Dr. Martin's improved rectum speculum, described in the Medical Record of September 15, 1894, and finding it equally useful as the designer found it in his practice, and, in fact, being familiar with its excellences as clinically demonstrated by Dr. Martin, I conceived the idea that an enlargement of the field of view would be desirable and might yield better results in practice.

I could see that a cylinder with a diameter equal to the largest diameter of the cone would give the much-desired increase of area at the working end of the speculum; but experience with the Ferguson vaginal speculum of corresponding size proved conclusively that the pain and discomfort caused by its introduction constituted a bar to its use in the average rectum without some device to facilitate its introduction. This difficulty was overcome by temporarily converting the cylindrical into a conical instrument during the time of introduction, by the use of an obturator with a long conical end or beak protruding well out of the cylinder.

The result was remarkable—an instrument easy of introduction and of easy control after introduction. By its use one can bring well into view, without difficulty, all the pathological features of the rectum, or, *per contra*, prove their non-existence. With an instrument of this kind, made of a proper length, it is possible to expose and explore the whole of the rectal mucosa, and to pass well up to the lower curve of the sigmoid flexure, and, by permitting the air to inflate that portion of the colon, as it will in nearly every case if the patient is placed in the proper position, the larger part of the right and superior portion of the lumen of the sigmoid. For this reason I have ventured to call it a recto-sigmoidal speculum. The usefulness and handiness of the instrument are enhanced by the addition of the large, strong handle designed for the original conical instrument. Messrs. George Tiemann & Co., of New York, have made those now in use by me, which give me great satisfaction as means of diagnosis of ob-



scure rectal troubles, and as aids to treatment in cases where we require a larger field of view and more room for manipulation of instruments than we have in the conical form of speculum.

117 South Sixteenth Street.

AN ELASTIC TOURNIQUET.

By JOHN C. SCHAPPS, M.D.,

SURGEON TO DEPARTMENT OF ORTHOPEDIC SURGERY AND JOINT DISEASES, ST. MARY'S HOSPITAL, BROOKLYN, N. Y.

The instrument is a modification of the ordinary rubber tube in that each end is closed by a large ball of the same material vulcanized in. The gap formed by the edges is neatly filled, and the seam smoothly finished. Lodgement for dirt is thus avoided. The tube should be about half an inch in diameter, with a thin wall (about No. 16 gauge). A length of three feet will answer for almost any case, though for hip-joint ampu-

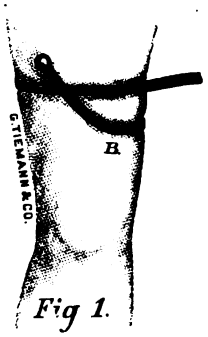


Fig 1.

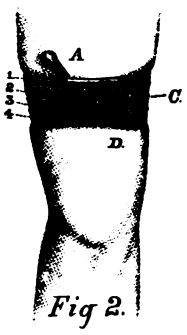


Fig 2.

tation in a stout subject a longer one will be necessary, and for the limb of a small child a shorter one will be more convenient. The object of the balls, or knobs, is to make the instrument self-fastening. No clamp or tie of any kind is necessary. It may, therefore, be very rapidly applied, and with such little skill as to be particularly useful in emergencies. If it be drawn tightly and the ends simply tied together the balls will prevent their loosening. This, however, is not as rapid as the rolling hitch, or as that shown in the cuts. For

the sake of clearness of method the tourniquet is represented as loosely put on. In actual use the first turn is stretched around the limb so that the last part of the turn crosses the first part a few inches from the knob (Fig. 1). The limb is thus immediately constricted, and at the same time the ball, with the compressed air in the end of the tube, secures that end so that both hands are free for the application of turns 2, 3, etc. These all cross the first part between the end A and the loop B, which is left uncovered and through which the last knob is thrust from below upward, and thus tightly grasped. In certain situations, as behind the Wyeth pins in hip-joint amputation, where the coils are piled on one another, it is necessary to have the loop B held out of the way. Should it not grasp the end tightly enough a pull on the first part, A, will make it fast. It will be frequently more convenient to leave free ends of several inches. In such cases the air contained in the tube prevents slipping.

This instrument is made by Messrs. George Tiemann & Co., New York.

498 Bedford Avenue, Brooklyn.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 2, 1895.

	Cases.	Deaths.
Tuberculosis	122	94
Typhoid fever	14	2
Scarlet fever	103	10
Cerebro-spinal meningitis	3	6
Measles	61	5
Diphtheria	175	33
Small-pox	2	0

Methods of Isolation Used in the Children's Hospital at Paris.—A correspondent of the *British Medical Journal* gives a description of the Hôpital des Enfants Malades, of Paris. This hospital, he says, claims to have reduced its mortality by a system of isolation of infectious cases. The hospital bears its age upon its face, the paint, plaster work, and worn wooden staircases looking in part picturesquely near the point where old age meets decay. The wards were hot and smelt stuffy. The day was not very cold, but the windows were all shut, and some were streaming slightly. The windows were old and ill-fitting. There was dust about. The wards were very dull and poorly furnished, though the beds seemed good. The wards were divided up by glass partitions into smaller rooms, each containing six or eight children. If the cases in each division were in any way classified with a view to even partial isolation, I did not observe it. The usual antiseptics were on the tables. The children wore nightgowns only, with the exception of one or two little ones, who seemed to be in bed in their petticoats; they may, however, have been partially undressed for the physician's visit. The bedding and night clothes were not so spotless as those at the Hospice des Enfants Assistés. Some of the children were far from well washed; one was dirty. Scaly heads were uncovered, and none of the minute precautions taken at the other hospital were in operation. All the doctors, students, and attendants were in holland blouses; hats were not allowed. Some of the blouses looked as if they had attended operations, and been imperfectly washed. The iron wire "boxes" invented by Professor Grancher were in use round about half the beds. They were iron-wire screens of five or six flaps filled in with woven wire of double or single web, like the wire mattresses on beds. They were painted chocolate color. Their interstices were full of dust, and I should say impossible to keep clean. They were placed so as to surround the beds in various ways, according to situation, sometimes merely hemming the bed in a corner. They were mostly about 4 feet high, and reached about 18 inches to 2 feet above the patient's head when lying down. The following form was observed. The visiting physician alone went inside the screen. The students leaned over, surrounding the bed more closely than they would have done without the screen. They were apparently not allowed to rest their hands on the tops. After examining the patient the physician cast his blouse on the bed, came out, washed his hands, and put on a fresh blouse. The attendants were supposed to do the same after touching the children. At meal times a mackintosh sheet was spread on the bed, and a shallow oblong galvanized wire basket, with a tall handle, was placed on it. The methods employed seemed to the correspondent rather clumsy, requiring an enormous amount of attention.

Some Hints on the Drug Treatment of Phthisis are given by Dr. Frederick C. Coley in *The Practitioner*. He says: I have found salol very successful in the treatment of the diarrhœa associated with phthisis. Remarkably small doses (gr. v. every morning for an adult) are often sufficient, though occasionally gr. x. two or three times daily may succeed where smaller doses have failed. I may remark, in passing, that the same remedy is often useful in the septic diarrhœa of children, but proportionally larger doses are required. Another remedy which has sometimes given good results in tuberculous diarrhœa is morrhuol creosoté. Morrhuol is a material extracted from cod-liver oil. It has been recommended as possessing the medicinal power of the oil from which it has been separated. This seems too good to be true, and it is not in accord with the commonly received theory of the action of oleum morrhuæ. Nevertheless this creosoted compound has certainly yielded very good results in the cases referred to. I am in the habit of prescribing terebene in combination with cod-liver oil in cases of phthisis—ten drops of terebene being mixed with each dose of oil. Terebene is obviously eliminated in the breath. It is to be recommended especially in those cases where the expectoration is profuse or offensive, and where there is a tendency to hemorrhage. Moreover, patients often tell me that the cod-liver oil "agrees better" when combined with it. On the other hand, the terebene itself occasionally disturbs the stomach. I have very rarely found it to cause any irritation of the urinary organs.

For inhalations he prefers:

Tr. iodi ætherealis	℥ ij.
Acidi carbolici	℥ ij.
Creosoti *vel* thymolis	℥ j.
Spiritûs chloroformi	ad ℥ j.

Dr. Burney Yeo's inhaler, made of perforated zinc, is the best, and it also has the merit of cheapness, as it costs less than a shilling. The iodine does not seem to act upon the zinc to any inconvenient extent. About ten drops of the liquid should be used at a time. This often gives much relief in the paroxysms of coughing. About half a teaspoonful of eucalyptol or pure terebene may be sprinkled on a handkerchief, and so allowed to vaporize as near as possible to the nose and mouth of the patient as he lies in bed.

Aphorisms.—The popularity of empiricism is the exact measure of what medicine lacks in order to be an exact science—or of what medical men lack in order to be worthy to represent it.

Should an unscrupulous rival promptly secure for himself a large *clientèle* while your own practice runs the even tenor of its way, do not, on that account, be discouraged; every country contains a sufficient number of intelligent people to maintain as many honest

practitioners as Nature gives birth to; but, as both are in a minority, it naturally takes longer for them to come together.

A doctor who knows nothing outside of medicine does not even know that.

The art of medicine is essentially a practical art; it is not enough to know much and well, for so much science is useless and even detrimental if it be not practical.

The more ignorant a practitioner is, the more incumbent does he conceive it upon him to furnish explanations of everything he is supposed to be observing.

Nothing in the world is more difficult than to state the precise relationships of cause and effect that exist between the simplest clinical phenomena.

Diagnosis paves the way to prognosis, but not always to treatment. How many cases of easy prognosis prove exceedingly difficult to treat! We have learned to "diagnose" eclipses of the sun and moon, and we are able to foretell their occurrence, but we are all the same powerless to avert or delay them.

Crises manifested by diuresis are more certain and more significant than those which take the form of diaphoresis.—*Medical Press.*

The Physiological Effects of Cycling.—The physiological effects of cycling have recently been studied by Dr. Blazhevich, of St. Petersburg, who publishes his results in his "Graduation Dissertation." He tabulates 270 observations on 104 individuals of both sexes and various ages, distinguishing between ordinary riders and those who train themselves for, and ride in, races or attempt to cover long distances. He finds that the play of the chest is diminished immediately after riding, especially in the cases of women and children and of men racing or commencing cycling, the diminution amounting in these cases to from 1 to 1.5 ctm. In men accustomed to the exercise the effect was scarcely perceptible. The general effect of the summer's riding upon the male votaries of the sport was, according to Dr. Blazhevich, practically *nil.* In women and children the effect was slightly to increase the vital capacity. The arm power was found to have increased more than the leg power in young persons and in beginners, but in the case of men of mature age who had previously been accustomed to cycling this was not so evident. Speaking generally, the effects of cycling on the system were found to be very similar to the phenomena noticed by Tsymkovski in soldiers who had been running, and by Gruzdeff and Passover as resulting from rowing.—*Lancet.*

Qualified.—(Public School, First Grade, A.D. 1905.) Teacher (to applicant for admission).—Johnnie, have you got a certificate of vaccination for small-pox?

"Yes, sir."

"Have you been inoculated for croup?"

"Yes, sir."

"Been treated with diphtheria serum?"

"Yes, sir."

"Had your arm scratched with cholera bacilli?"

"Yes, sir."

"Have you a written guarantee that you are proof against whooping-cough, measles, mumps, scarlet fever, and old age?"

"Yes, sir."

"Have you your own private drinking-cup?"

"Yes, sir."

"Do you promise not to exchange sponges with the boy next to you and never use any but your own pencil?"

"Yes, sir."

"Will you agree to have your books fumigated with sulphur and sprinkle your clothes with chloride of lime once a week?"

"Yes, sir."

"Johnnie, you have met the first requirements of the modern sanitarians and may now climb over yonder rail, occupy an isolated aluminium seat, and begin making P's and Q's as your first lesson."

Imperative Ideas.—The borderland of insanity is one of the most interesting and important regions with which our profession has to concern itself. Little eccentricities, slight oddities, peculiar habitual actions, are every now and then manifesting themselves in our patients, and it is not by any means easy to ascribe to these peculiarities their proper practical or scientific value and significance. Some will have it that such things as we have referred to indicate some departure from mental health; while others, admitting the fact, refuse to attach to it any practical importance. It is always difficult to say when the Rubicon that separates health from disease is crossed; it is peculiarly difficult in the case of the mind, and, if the scientific importance of the determination of this point is greater than the so-called practical, the latter is by no means to be neglected. By this term are to be understood the ideas or words which "arise with painful frequency or vividness; the thoughts which dominate the mind with morbid persistency" (*The Lancet*). Probably everyone has experienced such ideas at one time or another—some, no doubt, with much greater vividness than others. Most of us have probably experienced the sudden recollection that perhaps we have not turned the light out or locked the door, actions which have probably become so habitual that the not doing them would give rise to discomfort. Yet the idea forces itself upon us on some particular occasion that the usual routine has been departed from, and so urgent and repeated is the impression that nothing can dispel it but the fruitless journey downstairs to find that everything is as it ought to be. Such experiences, as we have said, are not uncommon; Dr. Tuke instances several of them, and he does so with the view of bringing into relief their absolute harmlessness as mental phenomena, although they may undoubtedly give rise to grave inconvenience and even danger. Besides imperative ideas, strictly so-called, there are also what may be called imperative emotions or impulses, as Dr. Hack Tuke points out. Among these is the peculiar impulse which some people have, when on a height, to throw themselves down. This is probably one of the commonest impulses that is met with, and it always has seemed to us very strange and curious that, in spite of the very great frequency with which it is said to be experienced, it so seldom does really become imperative and lead to the tragedy which it seems to foreshadow. We are, of course, speaking of its occurrence in people apparently sane and healthy. No doubt the arches of Waterloo Bridge and the top of the Monument could tell us tales of the fascination of moving water and of the attractions of an aerial flight, but the unfortunates who have thus perished have too often had experiences which have culminated in undoubted insanity. One most troublesome instance of imperative impulse Dr. Tuke mentions, viz., that of a gentleman, the last man in the world to use profane language, who had the greatest difficulty in preventing himself from lapsing into profanity in church, and sometimes while walking in the street. Such a condition must, of course, be very distressing, and we are glad to learn that the language which he is impelled to utter does not really become articulate, but is represented only by jerking spasmodic movements which may be described as abortive language. Surely this gentleman must be related to another who never could see a bishop without wishing—longingly wishing—to drop into what he called "cursory" language. This was probably an imperative impulse, associated, as they sometimes are, with the idea of Satanic possession. But there are other cases which approach nearer the confines of insanity, and some which cross the dividing line. The patient who is impelled to constantly wash her hands, and who dreads to touch anything for fear of giving rise to the infection or defilement of others, is certainly nearer insanity than sanity, as Dr. Tuke admits; the other, who had the imperative idea that he was pregnant, although at

first he was able to laugh at it as a delusion, actually ended his life in an asylum; so that imperative ideas, harmless as they may be, and no doubt in most cases are, must be regarded as a departure from normal mental health, in however slight a degree, and as such they will have a significance to the practical physician.

The Secret of Long Life.—M. Barthélemy Saint-Hilaire, the famous French scholar and politician, who recently entered on his ninetieth year full of physical and intellectual vigor, has been telling the inevitable interviewer how it is his days have been so long in the land. It is, we are told, the effect of strict adherence to the old precept "early to bed and early to rise," with steady work during waking hours. Every grand old man seems to have a secret of his own. Mr. Gladstone, we believe, attributes his longevity to his habit of taking a daily walk in all weathers, and to his giving thirty-two bites to every morsel of food. Oliver Wendell Holmes pinned his faith on equability of temperature. The late Major Knox Holmes swore by the tricycle, which, in the end, was the cause of his death. Dr. P. H. Van der Weyde, an American octogenarian, not long ago offered himself "as an example of the benign influence of the study and practice of music." Some aged persons give the credit of their long lives to abstinence from tobacco, alcohol, meat, or what not; others to their indulgence in all these things. One old lady, says *The British Medical Journal*, of whom we read not long ago as having reached the age of one hundred and twenty or thereabouts, maintained that single blessedness is the real *elixir vitæ*, and she ascribed the death of a brother at the tender age of ninety to the fact that he had committed matrimony in early life. M. Ferdinand de Lesseps believes in horse riding. Mr. James Payn complains that in his boyhood he "got a little bored with too much horse." The Grand Français seems to think that one can hardly have "too much horse." In a letter recently published, M. de Lesseps delivered himself on the subject as follows: "I shall always feel deeply grateful to Larine, my riding master, who from my earliest years made me share his keen passion for horses, and I am still convinced that daily horse exercise has in a large measure been the means of enabling me to reach my eighty-fourth year in perfect health." Carlyle was also a great rider almost to the end of his long life, and he not only rode, but we believe, groomed, his horse himself. On the whole, it must be concluded that the real secret of longevity is a sound constitution prudently husbanded.

Deaths from Wild Animals and Snakes in India.—The official returns for 1893 show that 21,213 human beings were killed in India by snakes, an increase of 2,188 on 1892; and 5,122 cattle, an increase of 624 on 1892; by wild beasts—meaning thereby tigers, leopards, wolves, bears, hyænas, etc.—2,804 human beings were killed, a decrease of 159 on 1892, and 85,131 cattle, an increase of 7,961 on 1892. The number of wild beasts destroyed was 15,309, a decrease of 679 on 1892; the number of snakes destroyed was 117,120, an increase of 32,331 on 1892.

Decline of the Baltimore Medical Society.—From all reports and appearances there seems to be imminent a decline of the Medical Society in Baltimore. With one or two exceptions, the society proceedings have become draggy, poorly attended, and with little interest shown. There must be some reason for this lack of interest. One reason doubtless is the great increase in the number of medical societies, and especially of the societies of specialists. The ordinary meeting announces three or four subjects, and if these are too specialized, the interest is too contracted and only a small number will attend.—*Maryland Medical Journal.*

The Antitoxin Production.—There is a momentary stoppage in the antitoxin production at Höchst, but a new supply is hoped for in a few days. The concentration of the dose used for immunizing persons near a case of diphtheria has been increased from one-tenth of dose 1 to one-fourth of the same.

Dr. Pavy on Diabetes.—When invited to deliver last year the Croonian Lectures before the Royal College of Physicians, Dr. Pavy took for his title, "A New Departure in Diabetes." The author's views have long been known as strongly opposed to those of Claude Bernard, and having devoted thirty years to a study of the physiology of the carbohydrates, his theories are at least entitled to a respectful hearing. In these lectures he summed up the results of his studies, and made a final statement of the views which his researches have led him to adopt.

The liver, he said, is not the source of sugar, but on the contrary, abstracts it from the portal blood, and so checks its entrance into the general circulation. If the liver fails in this duty diabetes ensues. He admitted that glycogen is a store of carbohydrate in the liver, but this, he said, is not reconverted into sugar. When removed quite fresh from the body the liver contains no more sugar than other tissues. Venous blood contains as much sugar as arterial blood, and portal blood during feeding is always richest in sugar. What, then, becomes of the hepatic glycogen? It goes to form proteids, or fat, or both. From a series of important experiments it would appear, the lecturer held, that fat is formed from starch not only by the liver, but also by the masses of protoplasm covering the intestinal villi. Thus, there are "two lines of defence" against the entrance of free carbohydrates into the general circulation—the protoplasm of the liver and that of the villi. These transform soluble carbohydrates into fat and glycogen. If from any cause these "lines of defence" are weakened, diabetes results in a degree proportionate to the impairment of function. It is thus we see clinically cases of slight glycosuria amenable to treatment by reducing the carbohydrates of the diet. But in severe cases the "lines of defence" are entirely broken down. Dr. Pavy explained the occurrence of these severe cases and our inability to help them by diet, by saying that a certain amount of carbohydrate is formed in the process of digestion, even from albuminous food, and in these cases even this cannot be synthetized into proteids.

Why does protoplasm lose its synthetizing power? Dr. Pavy did not think the fault is in the protoplasm, but that the latter is influenced by the vessels, and these, of course, by the nervous system. A hyperoxygenated state of the blood favors the transformation of carbohydrate into glucose and may produce glycosuria. Then dilatation of the arterioles allows a rush of blood through the capillaries, so that the venous blood is not sufficiently dearterialized. This favors the passage of carbohydrates into glucose. The vascular dilatation must depend on derangement of the vasomotor nervous system, and the whole history of diabetes proves that the disease is often due to nervous disorder. In some most intractable cases Dr. Pavy believed the sugar must have come from the tissues, and in explanation of this he conjectured the existence of a ferment acting on their proteid matter which has a glucoside constitution.

Forged Diplomas in Italy.—It was recently discovered that the seal of the University of Bologna had been counterfeited and affixed to a number of forged diplomas. It is believed that spurious diplomas, purporting to have been issued from other Italian universities, are also in existence.

Prize Essay on the Abuse of Alcohol.—Some time ago the Austrian Temperance Society offered a prize of 500 crowns for the best essay on how the growing abuse of alcoholic stimulants can be counteracted in schools. Ninety-six essays were received, and the prize was awarded to Professor Ritter von Kraus.

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Original Articles.

THE CURABILITY OF CANCER WHEN THE LYMPH-NODES ARE INVOLVED.[1]

BY R. FARQUHAR CURTIS, M.D.,

PROFESSOR OF CLINICAL SURGERY IN THE NEW YORK POST-GRADUATE SCHOOL; SURGEON TO ST. LUKE'S HOSPITAL AND TO THE NEW YORK CANCER HOSPITAL.

IN the clinical history of malignant disease there is no factor of greater importance than the secondary involvement of the lymphatic nodes, for upon that point frequently turn our diagnosis and prognosis, as well as our methods of treatment and their results. In fact it is safe to say that, as to diagnosis, we have been in the past far too dependent upon this indication of the malignant character of a suspicious tumor or ulcer, because when glandular infection has occurred it is generally too late to obtain a cure by any operation, be it never so radical. When the disease has begun to spread by the lymphatics, although each gland through which the lymph-stream passes acts for a time as a filter and prevents the infectious material from going farther, this protection is uncertain. Sometimes the node will continue this action until it is greatly enlarged, but more frequently the infectious material will begin to pass through it before any external changes in the gland are perceptible, and thus the disease reaches the next link in the chain, or even spreads itself throughout the entire body, producing the dreaded generalization. When we consider that the glands may be infected even before they are perceptibly enlarged (the usual clinical test for the existence of disease in the glands), and that even at this stage the infection may pass through them and attack the next nodes above, the folly of the time-honored practice of waiting until the glands are involved in order to make the diagnosis of cancer, needs no further demonstration. If we are to hope for a cure we must learn to make the diagnosis before the glands are enlarged, for even the complete removal of all the infected glands discoverable will not give security.

In another point of diagnosis, the distinction between sarcoma and carcinoma, reliance upon the presence or absence of enlarged lymph-nodes, may lead us into error, for later experience has shown that the opinion formerly held that sarcoma does not involve the nearest lymphatic glands secondarily, is not altogether correct, although this infection is not so constant or so early a sequence of that disease as in the malignant epithelial tumors. Thus Dieterich,[2] in 114 cases of melanotic sarcoma which he collected, found the nearest lymphatic glands secondarily involved in twenty-two per cent.; and Poulsen[3] found the axillary glands attacked in fifteen per cent. of 33 cases of sarcoma of the mamma. My impression is strong that secondary disease of the lymph-nodes is even more common in sarcoma occurring elsewhere, although positive figures as to the proportion of cases with and without it are not at hand. I have seen, for instance, the glands in the groin involved with sarcoma of the sole of the foot, those in the axilla with sarcoma of the skin of the shoulder, those in the neck with sarcoma of the tonsil, and all at a comparatively early period. It is chiefly in sarcoma of the bones that infection of the lymphatics is as rare as the older authors were wont to think.

If any rule could be discovered for determining the approximate time when glandular infection is to be expected in malignant disease, it would be of great service, but that period is so variable and the data so uncertain, that we can only predict it in the most general way. In estimating the duration of cancer, we are almost entirely dependent upon the statements of the patients as to the date of its first appearance, and nothing can be more unreliable; for while some persons notice the least variation from the normal, others fail to observe the most obvious tumors or the most marked symptoms; and in many cases the tumor or its symptoms are not definite enough to attract the attention even of the careful, until it has been in existence for a long time. In spite of these difficulties, careful study has shown that the time of secondary infection of the glands in carcinoma depends chiefly upon the variety of the neoplasm and upon the organ which it attacks. Flat-celled epithelioma infects the lymph-nodes very late, ordinary carcinoma earlier, and the soft medullary carcinoma, rich in epithelial cells and poor in connective tissue, invades them very early. In some organs, such as the larynx, the rectum, and especially the skin, the nodes are involved late; while in others, the tongue for example, malignant disease will rapidly attack the glands. While it may be said in general that this second rule is a corollary of the first, and that certain organs are prone to certain neoplasms, and hence the glands connected with any organ are involved early or late according to the form of new-growth which is apt to occur in that part, this is not always the case, for the most common form of tumor in the tongue is flat-celled epithelioma, and yet no organ has a worse record for the early diffusion of the disease beyond its borders than the tongue. Probably the active movements and rich blood-supply of the tongue are largely responsible for this peculiarity. The lip and mamma occupy an intermediate position between the two sets of organs named with respect to the secondary invasion of the glands.

The time of infection of the lymph-nodes has been most thoroughly studied in the breast, in which Gross[1] gives the average date of their involvement as 14.7 months after the tumor in the breast was first noticed. But Poulsen[2] has more recently furnished some data of great importance in this connection. He cites 21 cases of operations in which the mamma was removed for carcinoma but the axilla was left untouched, in which the patients remained well for three years or more. Among these cases there are five examples of freedom of the glands from infection for an unusually long period, two of them being scirrhous tumors which were operated upon two and seven years, respectively, after the first appearance of the growth, and three were ordinary carcinoma operated upon one year (two cases), and three years, after their beginning. In addition to these cases there was an instance of a medullary carcinoma removed as late as six months after it was first observed. These facts prove that glandular involvement may be delayed as late as the dates mentioned

[1] Read before the New York State Medical Society, February 6, 1895.
[2] Archiv f. klin. Chirurgie, xxxv., Heft 2, p. 289.
[3] Ibid., xlii., p. 592.

[1] American Journal of the Medical Sciences, 1888, March and April.
[2] Loc. cit.

for these particular varieties of tumor, otherwise the patients could not have continued in good health. On the other hand, of thirteen patients operated upon in the same manner, who remained free from local return but fell victims to the progress of the disease in the axilla, one woman was operated upon within one month and another within three months after the tumor was first discovered, showing that even at these early dates the glands must have been infected.

These figures illustrate the great irregularity of the time of glandular involvement, and show how impossible it is to lay down any definite laws upon the subject. I have observed among my own cases two instances of late freedom from infection, both, however, in unusual forms of the disease, one being a carcinoma of the nipple with a history of repeated hemorrhage from the nipple for two years before the operation, the other being a typical atrophying scirrhus which had existed for many years (variously given as from seven to fifteen years) before removal, in both of which the glands were enlarged but proved free from malignant changes on microscopic examination. Cases of unusually early infection (in one to three months) are so familiar to all that it is hardly worth while to adduce additional examples; in fact it is not uncommon to find the glands already involved at the first examination of even a small carcinoma of the breast, in spite of the statement of the patient that she has just discovered the tumor. It may be well to recall to mind that Gross and others have shown that the situation of the tumor in the breast, whether it be in one or another quadrant or in the centre, has no influence upon the date of infection of the lymph-nodes.

The exact method of extension of the disease through the lymphatics is well worthy of study, and we are under great obligation to Heidenhain[1] for his laborious investigations of this point in carcinoma of the mamma, in which he has shown that the infection travels in the first place along the lymph-vessels in the fascia of the pectoralis muscle, and hence in order to obtain a cure it is absolutely necessary to remove this fascia, even in the mild cases in which it does not appear to the naked eye to be diseased. If the growth should penetrate more deeply between the muscular fibres themselves, it tends to diffuse itself parallel with their length and in both directions, so that in such cases it will not suffice to circularly excise the carcinomatous nodule in the muscle, but the entire length of the fibres attacked must be removed from origin to insertion, and in extensive disease the whole muscle must be systematically extirpated. But while these facts are substantially proved, it is well to note in passing that Heidenhain's advice must be accepted with a certain reserve. It is generally admitted that it is necessary to remove the contents of the axilla in every case, and the pectoral fascia as well, even when apparently healthy, for it is never possible to be sure that the disease has not passed beyond the mamma. But in regard to the removal of the entire muscle, there are so many cases on record in which suspicious nodules in the muscle have been simply but thoroughly cut away without removing the entire length of the fibres, and yet no recurrence has taken place, that it is evidently unnecessary to be so extreme in our treatment in every case. The recent advocates for extraordinarily wide and sweeping operations, always removing the pectoralis major with the mamma (Halstead,[2] Meyers,[3]) have not yet had a sufficient number of cases tested by a proper time-limit to prove that their results are any better, as to permanent cure, than those obtained by the ordinary but thorough operation now generally performed, as illustrated by the recent report of Dr. William T. Bull,[4] with twenty-six per cent. of cures. Dr. Willy Meyer's case is only a few months old, and Dr. Halstead has but seven cases followed for three years, with three cures.

It seems to me sufficient, in ordinary cases with slight involvement of the pectoralis muscle, to remove the fibres which are diseased from origin to insertion, with a wide margin, and to reserve the extirpation of the muscle for more extensive disease. The contents of the spaces between the pectoralis major and minor, and underlying the latter, as well as those of the triangle of Mohrenheim, should also be thoroughly removed with the axillary contents; but it is generally possible to accomplish this without dividing the tendon of the pectoralis minor, or even cutting across the pectoralis major. If it should be found that these spaces cannot be thoroughly cleared without attacking the muscles, the latter should not be spared, and if the pectoralis major be extensively diseased, it should be completely extirpated as suggested by Heidenhain. I have been compelled to remove the pectoralis major eight times (in one patient on both sides) since 1890, and can testify that while this removal somewhat increases the difficulty and danger of the operation, the increase is not great, and the loss of power and motion in the arm is surprisingly small—in fact in some patients it is hardly noticeable.

It is much to be desired that work similar to Heidenhain's should be undertaken in other organs, for it seems probable that the lack of knowledge of the exact course of the disease along the lymphatics leads surgeons on the one hand to neglect important regions where infection is liable to occur, and on the other to make too sweeping operations and to remove tissues which could be safely left undisturbed. The penis would offer a particularly good field for such an examination, for in the early stages of epithelioma of that organ it is probable that the deeper parts are not involved, and that a removal of the tumor, the superficial parts, and the neighboring glands, together with the cellular tissues containing the connecting lymphatics, would enable us to avoid attacking the urethra, and would perhaps save the greater part of the body of the organ, which in the present imperfect state of our knowledge we feel compelled to extirpate down to its attachments to the bone.

It is well established that when the glands are infected the chances for complete eradication of the disease are much diminished, and some authorities appear to think that operations in such cases cannot do more than prolong life. Gross analyzed 136 cases of amputation of the breast for carcinoma, in which recurrence took place, finding that in 43 cases in which the glands were free from infection at the time of operation, the average duration of life from the beginning of the disease was 52.7 months; but in 93 cases in which the glands were involved the duration was only 39.3 months. In the first set, recurrence appeared in eight months on the average, while in the second it occurred in less than two months. We should note, however, that Gross's collection of cases was made from those published up to about 1885, and gave only 11.83 per cent. of cures, with a mortality of fourteen per cent.—results which have been so much improved of late years that in a collection of cases running up to the end of 1892, I found[1] a mortality of only six per cent., with over twenty-two per cent. of cures, and some individual operators have even better results than these. Poulsen, who may be quoted as more nearly representing modern results than Gross, found that twenty-two per cent. of all his cases (with and without glandular infection) remained well for three years or more, while of 43 cases in which microscopic examination showed that the axillary glands were involved, only four (9.3 per cent.) were well at the end of that time, and in two of these cases the examination had shown that the infection was minimal in extent.

[1] Archiv f. klin. Chirurgie, xxxix. (1889), p. 97.
[2] Annals of Surgery, 1894, xx., p. 497.
[3] MEDICAL RECORD, 1894, ii., p. 746.]
[4] Ibid., p. 225.

[1] MEDICAL RECORD, 1894, i., 225.

These figures clearly demonstrate how much the danger is increased when operation is delayed until the glands are invaded.

Some personal cases of my own lead me to think that such patients are not incurable, even when some of the glands are thoroughly diseased. The first case, already published,[1] was a slow-growing epithelioma of the floor of the mouth in a patient forty-nine years of age, which I removed by a very thorough operation in January, 1890. In December of the same year he returned with a recurrent tumor involving the lower jaw, and also a single gland in the neck over the carotid, as large as a hen's egg. This gland was dissected out, necessitating the resection of an inch of the internal jugular vein, which was adherent to it but not visibly diseased, and then half of the lower jaw was resected, both bone and gland proving to be carcinomatous on microscopic examination.[2] I have been able to follow this patient, and he still remains well, four years after the second operation. The second case occurred in a laboring man sixty-one years of age, who had an epithelioma on the back of the right hand involving only the skin, but the epitrochlear and axillary glands were decidedly enlarged and hard. I removed the tumor from the hand with free excision of the skin, grafting the wound, and then thoroughly dissected out the glands at the elbow and in the armpit in January, 1891, and the diagnosis of epithelioma of the hand with secondary involvement of the glands in both situations was confirmed by the microscope. I have recently examined this patient, three years after the operation, and can find no trace of malignant disease anywhere. Among my breast cases, one of carcinoma with extensive glandular disease in the axilla still remains perfectly well, three years after the operation. In another case I removed the right breast and axillary contents in 1889, and a recurrent nodule in the scar with the entire pectoral muscle in January, 1890, but in December, 1892, the patient returned with an adherent carcinoma of the left breast, and I was forced to extirpate it with the entire pectoral muscle of that side also; yet, in January of this year (1895), she still remains well, five years after the second operation upon the right side, and two years after that upon the left.

These cases show that even in such advanced disease we need not despair of obtaining a cure by thorough operations, although that fact does not diminish the urgent necessity for operating before the glands are involved, for we have no right to voluntarily incur the risk of delay. The case of epithelioma of the hand is also interesting from another point of view, since it indicates that in some cases the infectious material may pass directly to the nearest glands without contaminating the lymphatic vessels through which it is conveyed, just as muddy water might flow through a pipe without leaving any sediment until it should meet with a filter. I do not believe that this is the rule, but this case shows that a cure can sometimes be obtained by excising superficial epitheliomata and extirpating the nearest lymph-nodes, leaving the intermediate parts. In such a case as that just described, the success of our endeavor to obtain a cure, even if the arm had been amputated, would have depended upon the thoroughness with which the axillary glands were removed, since in them rested, so to speak, the head of the enemy's column, and the infection had already gone beyond the parts which could be removed by a simple amputation. In view of this fact, and of the man's age and inability to support himself if he lost his arm, it appeared legitimate to leave the limb, trusting to the possibility that the lymphatic vessels had escaped infection. Even if disease had appeared later in the course of the lymphatics, an amputation promptly performed would, in all likelihood, have saved his life. This case is not advanced in order to attempt to establish a rule, but merely to illustrate the fact that in some cases the treatment of malignant disease will admit of more conservative measures than those which we are generally forced to adopt. The recent attempts in a similar direction in treating giant-cell sarcoma of the bones by enucleation, leaving the greater portion of the bone, and thus avoiding amputation, have met with fair success and deserve imitation.

In conclusion, I would like to emphasize the fact that extensive operations should not be opposed merely because they are extensive. Any limb or organ should be removed if life can be saved thereby, the only limit to be placed upon the sacrifice being the natural one fixed by the willingness of the patient; and for most men no sacrifice is too great, even when it secures only a few months' delay of the inevitable end. My plea is merely to individualize the cases and to suit the treatment to the form of disease which may be found, and to the particular conditions of the patient. Extensive disease necessitates extensive operations, and in any case the operation must be so planned as to remove every particle of diseased tissue, for only when this is accomplished can a cure be effected. Thorough operation will, as a rule, require the removal of the original tumor, the lymph-nodes of the nearest glandular region, and all the cellular tissue between, if possible in one mass—for instance, the mamma, pectoral fascia, fat on the edge of the pectoral muscles, and axillary glands; the penis, inguinal glands, and intervening subcutaneous fat; and the tongue, and submaxillary glands, with all the intervening cellular tissue in which the vessels run. In such organs as the tongue, when the disease has not crossed the median septum by direct extension, it is often possible to leave one lateral half, owing to the fact that each half has a distinct vascular and lymphatic system. In the breast, however, it is seldom safe to make partial excisions, because the disease spreads so readily, and more particularly because the whole breast is likely to be in a condition which will surely end in the development of the disease. This does not justify, however, the proposition to remove both breasts at once, because, it is claimed, if one is diseased it is probable that the other has also reached a pre-cancerous stage when it may be attacked at any moment. That this claim is unfounded is shown by the rarity of the occurrence of malignant disease in both breasts, either simultaneously or consecutively — according to Gross less than three per cent. of the cases showing bilateral disease. The necessity for radical operations, operations which remove all diseased tissue, cannot be questioned, no matter how extensive they may be, but I believe that it is not necessary to be extravagant in order to be thorough, and that it is possible in certain cases to obtain lasting cures by conservative methods which will spare the patient unnecessary mutilation.

[1] MEDICAL RECORD, 1894, i., 229.

[2] The secondary deposits of epithelioma are frequently carcinomatous.

The Colorado Medical Library Association.—This flourishing organization held its second annual meeting on January 7th. The report of the secretary showed 1,542 volumes of medical works in the library, 200 volumes of bound medical journals, about one thousand volumes of medical journals unbound, and several thousand pamphlets and duplicate medical journals. Thirty-five leading medical journals are subscribed for and 15 others are given. It was announced that transportation had been secured for the gift from the Boston Medical Library to the Association of about 5,000 volumes of medical journals, and that they would soon arrive in Denver.

The Indian Medical Association is a new society recently established in Calcutta. The names of those who have been instrumental in organizing it are among the most representative of the local profession, and it is confidently expected that the society will be an active and influential one.

ON RHEUMATIC AND ALLIED AFFECTIONS OF THE PHARYNX, LARYNX, AND NOSE.[1]

By W. FREUDENTHAL, M.D.,

NEW YORK.

THE reports of the rheumatic affections of the larynx, which I will discuss first for the sake of convenience, are still few in number. These affections have been described under various names, so that confusion arose. Thus Fletcher Ingals[2] calls it rheumatic sore throat, while formerly he used the term rheumatic laryngitis. But since he has seen numerous cases, in which other parts of the throat have been affected, "and this at times without involvement of the larynx," he considered the name rheumatic sore throat more appropriate. I for my part should prefer the former cognomen, for although there are undoubted cases of rheumatic sore throat, as we all know, where the larynx is not affected, for which rheumatic angina or rheumatic pharyngitis would be the proper name, yet there are, on the other hand, cases, as we will see below, where the larynx, and only the larynx, is affected. Why not call these rheumatic laryngitis? Max Thorner[3] also, in speaking of a case of rheumatic pharyngitis, and of another of rheumatic laryngitis and pharyngitis, called these rheumatic throat affections. Further, as ordinary cases of so-called chronic rheumatism often approach very nearly the nature of gout or lithæmia, it is well to take also into consideration such affections of the throat as are due to a gouty (Harrison Allen) or lithæmic (Hinkel) diathesis. The last-mentioned author himself admits that lithæmia and gout are closely allied, and says: "The term lithæmia, or the gouty diathesis, may be used interchangeably to describe it in some cases" ("it" meaning the condition of urine, etc.); also that some cases of rheumatic sore throat, described by Ingals, appear to him as instances of a lithic rather than a true rheumatic state. To make things more complicated, Thorner describes a case of "painful throat affection," which was nothing more nor less than the forerunner of a polyarthritis rheumatica. Finally, we find a form described as rheumatic gout or arthritis deformans of the larynx (Archambault, Casselberry, George Meyer-Berlin).[4] Although there is a decided difference between arthritis deformans and true gout of the larynx, my opinion is, that it is impossible in most, if not in all, cases to detect by laryngoscopic examination any distinction between them. But as the medicinal and dietetic treatment for each is so widely different, it is always necessary to determine the primary cause. Only then we will be able to help or even cure our patients.

To begin with the simplest form, the rheumatic laryngitis. Judging from the number of reported cases one would think this disease is extremely rare. But this is not so, as Archambault[4] has already explained. In predisposed individuals the rheumatic laryngitis may be for weeks or months the only symptom of rheumatism, and this very probably is the reason why the correct diagnosis is so seldom made. For in these days of specialism and local treatment *par excellence*, if one sees a case with cough, caused by a dry sensation, with hoarseness and more or less pains in the larynx, accompanied by the general symptoms of laryngitis, one seldom thinks of rheumatism, but satisfied with the diagnosis, laryngitis, applies local treatment, while the real cause of the disease should be treated by internal medication. The following case may be used to illustrate this point.

Mr. S. S——, fifty years of age, saloon keeper, was sent to me five years ago by Dr. Breitenfeld, with cough, hoarseness, and pains in the throat. I find in my case-book the diagnosis, laryngitis. He was treated with astringents, etc., but it took a long time before he recovered. He was suffering from articular and muscular rheumatism at the same time, but I do not remember when the recovery of these affections took place, my case-book giving no date about them. About three years later, *i.e.*, two years ago, he had a similar attack of rheumatism, but more severe, so that he was obliged to remain in bed. His larynx was this time not affected, but later he had a few more attacks of laryngitis, which were usually combined or followed by articular rheumatism in the knees, etc. The latter fact was only made known to me when he came again, on May 2, 1894, with pains in the larynx and trachea, as well as in the knees and calves. Only then did it occur to me that the affection in his larynx and trachea was purely rheumatic. For three weeks he had been treated for throat trouble by somebody else, but without benefit.

The laryngoscopic examination at this visit showed the whole larynx and trachea, as far as one could look down, reddened and somewhat swollen, especially the epiglottis. He was hoarse and complained of severe pain in the right side of his larynx and trachea. The pain increased decidedly with pressure. The pain as well as the inflammation was greatly out of proportion to the local condition observed. This observation is in accordance with those of Dr. Fletcher Ingals. Mr. S—— had a dry sensation in his larynx, which made him cough continually, so that the laryngoscopical examination was quite difficult. In addition he had a bronchitis. I applied the same astringent as before (chlor. zinc), but discontinued this treatment three days later, as he obtained no relief. I then applied external massage by means of my electric vibrator and gave salol internally. I must state that the effect was very striking. For the first time in weeks his cough did not annoy him to any degree, and he was enabled to sleep half the night without awaking. For the next eight days I applied massage daily and his throat felt almost well, when he was forced to go to a hospital, his knees and ankles being so much swollen that he could not walk. At this period the epiglottis and the introitus laryngis were almost normal, the arytenoids still red, and the vocal cords already white on the border line. After two weeks' treatment in the hospital for general rheumatism, during which time he experienced but slight throat trouble, he was discharged cured.

I could further enumerate several such cases, but will not take up your time with repetitions. This one case shows, however, evidently, that in predisposed individuals rheumatic laryngitis may be at times the only symptom or the forerunner of general rheumatism, just as well as the rheumatic pharyngo-amygdalitis, of which we shall speak later on. But it has to be remembered that the first class of cases is very rare.

Under this heading (rheumatic laryngitis) I should like to record the cases of paresis or paralysis of one or both vocal cords, due to rheumatism. In recent literature I find but two cases; one reported by Ehrmann[1] and one by Schmiegelow, mentioned in Dr. Newcomb's article on "The Laryngeal Manifestations of Rheumatism,"[2] while formerly, although quite rare, still they were more frequently published.

The following case came under my treatment April 31, 1894. Miss M. M——, thirty-one years of age, upon whom the radical operation for inguinal hernia had been performed—by the way, without success—left the hospital three weeks ago in a much debilitated condition. Two weeks later she took a drive out of town in an open carriage, and was caught in a heavy rain-storm. She had severe chills and pains all over the body, which she treated with home remedies. One

[1] Read before the Section on Laryngology and Rhinology of the New York Academy of Medicine, November 28, 1894.

[2] Reprinted from the Transactions of the Thirty-eighth Annual Meeting of the Illinois State Medical Society, 1888.

[3] From the Transactions of the Ohio State Medical Society, 1889.

[4] Raymond Archambault: Des Manifestations Laryngées Aiguës du Rhumatisme. Thèse, Paris, 1886.

[1] New York. Medic. Monatsschrift, 1891, page 100.

[2] International Medical Magazine, August, 1893.

morning she noticed that she was hoarse, and experiencing pains in the throat, and a sensation as if a foreign body had located in her larynx, she decided to consult a physician. By this time she had become almost aphonic, and I found upon examination the larynx reddened and complete immobility of the left vocal cord. As I discovered neither tubercular glands, aneurism, nor anything else which could by pressure on the vagus or recurrens produce this phenomenon, and as her history pointed to a rheumatic origin, I gave her salicylate of soda together with potassium iodide, and was delighted to see that all the throat symptoms had disappeared by her second visit, which occurred six days later. No local applications had been made, as the patient had told me she could visit me but seldom. In fact I saw her only once afterward, a week later, when all the other symptoms of rheumatism had disappeared also. The iodide of potash had been given only in very small doses. In this case the appearance of a paresis of the vocal cord a few days after exposure to a very severe draught, the presence of rheumatic symptoms in other parts of the body, the absence of any other affection which could explain the paresis, and the prompt disappearance of all symptoms after administering salicylate of soda, confirm the diagnosis of a rheumatic paresis. In all these cases as in our own, improvement follows quickly the antirheumatic treatment, but relapses are not uncommon.

Another class of cases widely different from these exudative inflammations, are those of articular rheumatism of the larynx. This form is easiest to diagnosticate, when other parts of the body are also affected. When, however, no rheumatic history is found and the disease is limited to the larynx alone, it is sometimes of the greatest difficulty to make a correct diagnosis.

Allow me to cite the following case as example.

On June 10, 1893, Annie F——, aged seventeen, and born in Hungary, came to the German Poliklinik. She complained of pains, felt for several weeks, which were permanent on the left side of the larynx. In spite of the most careful examination, which was repeated twice weekly, I could not discover any abnormality in her larynx. During the months of July and August I was not in the city, and when on my return I saw the patient again, she presented quite a different aspect. The pains were still there, even severer than before. On laryngoscopic examination I found the left arytenoid very much enlarged, the crico-arytenoid joint rather anchylotic, and the movement of the left vocal cord much hindered. Her voice, which had been only slightly hoarse before, was now aphonic. As these signs seemed indicative of a tubercular process, I examined the lungs, but except that the right apex anteriorly was slightly dull on percussion, I found nothing abnormal. The examination of the sputum was also negative. Still, as the case was doubtful, I gave her creosote and applied lactic acid after Krause's method, which always relieved her evidently. At the end of November, 1893, she was stricken with a severe attack of rheumatism, which affected almost all the larger joints of the extremities. During this time—a period of about three weeks—the pains in her larynx became very severe on two occasions, but subsided entirely afterward. The breathing was never interfered with. All this I learned when she returned to my clinic, and on further inquiry, found that she had had rheumatism of a mild form the two preceding winters. She was now entirely aphonic and somewhat dyspnoic, a fact of which she was entirely unconscious, and the left arytenoid cartilage was more swollen than before. I put her on salicylate of soda, tincture of iodine externally, and hot applications over the affected part. But although the swelling of the arytenoid went down slowly, she had pains during the whole winter. As the warm weather approached she felt better, and during the whole month of June complained of no pain whatsoever. My last examination, made July 19, 1894, showed the left arytenoid still somewhat enlarged, so that the vocal cords could not entirely close. The voice was still hoarse, but the pains had not recurred.

Such cases are very rare, and a peculiar fact in this one was, that the patient never complained of any dyspnœa, although it was present to a marked degree, and although the left arytenoid was at times so large that a breathing space could hardly be seen. In very acute cases, however, the dyspnœa sometimes becomes so alarming, that tracheotomy is the only relief.

Thus Archambault reports a case of a woman thirty-one years of age, with articular rheumatism and endopericarditis. The fourth day of her stay in the hospital pains in swallowing and dyspnœa appeared. The dyspnœa grew worse so much, that one morning, during a general visit through the ward, the attending physician had to perform a tracheotomy on the spot, there being no time to remove the patient from her bed to an operating-table.

A similar case was reported only lately by George Meyer,[1] Berlin. It is, in short, as follows: A merchant, aged forty-nine years, was ill with acute articular rheumatism. From the sixth day on the larynx was affected, terrible pains in swallowing, etc., and dyspnœa which forced the patient to sit up in bed all night. On the ninth day there were also signs of a thrombosis of the right vena femoralis, but in spite of all the patient gradually became better. Tracheotomy was at one time imminent, but did not become necessary.

In neither of these two cases, however, could a thorough laryngoscopic examination be made. But after seeing my above case just cited, there is no doubt in my mind that in both instances an acute swelling of one or both crico-arytenoid joints occurred.

My patient never during my observation, *i.e.*, over one year, developed any signs of phthisis, so this disease must of necessity be excluded in diagnosing the case.

The other cases of chronic rheumatism of the larynx, to which we will now return, come so near those forms which are due as well to a gouty condition (Harrison Allen), as those originating from lithæmia (F. W. Hinkel), that I am forced to put them in one class together. The term chronic rheumatism, by the way, expresses so little and has so little in common with the well-defined infectious disease which is called acute rheumatism, that it is entirely abandoned by Sacharjin,[2] who proposes instead to use altogether the name polyarthritis chronica.

As I have seen a few cases of lithæmic as well as of true gouty origin, let me cite one case of each species as an example.

Case I.—J. N——, real estate agent, aged thirty-six, complains of much phlegm in his throat. Since eight years he is hoarse almost continually, and he noticed, as often as his stomach was disordered, that he had pains which he located near the thyroid cartilages, especially on the right side. Since eight days he has a very distressing cough. The larynx was deeply congested down to the trachea, but this disappeared after a few days' treatment. Thereafter all I could see was that the redness and swelling extended only to the epiglottis, and for a time to the posterior wall of the larynx. The vocal cords were partly injected.

As the patient had been treated by a good many physicians without permanent relief, and as the local symptoms were not in accordance with the great pain he felt, I concluded that there must be something more behind this. His urine was examined, and uric acid and oxalate of lime were found in excess. A strict diet, together with alkalies and external massage to the larynx, improved his voice and entire condition remarkably and removed the pains within six weeks. He was discharged feeling perfectly well after a treatment of three months.

[1] Zwei Faelle von acutem Gelenkrheumatismus. Berl. klin. Wochenschr., No. 16, 1894.

[2] Deutsch. med. Woch., No. 25, 1894.

That we had here a lithæmic condition of the larynx, just as Hinkel described it, must be clear to everybody.

Case II.—Mrs. A. B——, forty-six years of age, four months ago had an attack of pleurisy. Since then she complains of pains in her chest and in some of the larger joints. But the main reason she came to me, was on account of a very distressing cough. She told me she had formerly several attacks of gout in the left foot, and her family history was gouty for the last two generations. She has home troubles and feels generally depressed. The chest, with the exception of a few râles, showed nothing abnormal. In the larynx I found the signs of a subacute catarrh, the arytenoids both somewhat enlarged, especially near the vocal processes, and a slight swelling of the interarytenoid commissure. Regulation of diet, magnesia, lithia water, etc., improved her condition very much. No local applications were made to the larynx. She visited me for a few weeks and then disappeared. By this time the congestion as well as the swelling of the interarytenoid space were almost gone, but the swelling of the arytenoids remained almost the same. They were surely not diminished in size. She felt improved, however, and coughed very little.

I did not hesitate to make the diagnosis, gout of the larynx, as the patient's history was so distinctly characteristic of gout, and as the treatment improved her general as well as local trouble. Whether the enlargement of the arytenoids was due to a partial ossification or to a gouty deposit, I do not attempt to decide. There is only one thing in favor of the latter supposition, and that is the greater swelling near the vocal processes. But this is a supposition which only occurred to me after reading an old article of Virchow's on rare gouty deposits.[1] At the autopsy of a sixty-five year old man who had died of pneumonia, and who had had swelling and pain in the right ankle, Virchow found accidentally a white kernel the size of a pin's head, which glistened through the mucous membrane. The arytenoids as well as the other cartilages of the larynx, were ossified and transformed almost entirely into spongy tissue. The "tophus" was imbedded exactly in the perichondrium of the vocal process. Surely such a pathological lesion is very rare, and the above-cited case of Virchow's leads me to conclude that my case was similar, although no absolute diagnosis could be reached without an autopsy.

Thus we have seen that the larynx was the seat of an exudative inflammation, or, as it has been called, rheumatic catarrh. We have further seen a true rheumatic localization, which affected not only the mucosa, the muscles, and the nerves, but also the joints. In all of these cases an antirheumatic treatment brought improvement. On account of the similarity of the symptoms, we have also seen cases of gout and lithæmia affecting the larynx, as pointed out by Harrison Allen and Hinkel, and as proven by post-mortem examination by Virchow, and later by Sacharjin, and now we come to the second part of our paper:

The Rheumatic Affections of the Pharynx.—You know that in the last year Sahli, at an autopsy of a patient who had died of polyarthritis, found a coccus morphologically identical with the staphylococcus citreus. Sahli is therefore inclined to take this micro-organism as the virus of polyarthritis, and the opinion that rheumatism is an infectious disease is stronger now than it was before.

In this country E. Fletcher Ingals and Max Thorner were the first advocates of rheumatism affecting the pharynx, etc., and you all remember the discussion that was produced on this question in English medical journals not long ago. Now it is an established fact, that angina is often the forerunner or the initial stage of rheumatism, and we speak of rheumatic angina just the same way as we speak, for example, of a scarlatinous angina. We may with Fiedler consider the rheumatic angina as the first effect of the virus which was inhaled with the air and caught in the tonsils or the neighboring parts. Often, after an interval more or less long—as Dr. E. Roos remarks in a recent publication[1]—the general infection of the system takes place. In this respect we see a similarity with the primary lesion of syphilis. Everyone of you has seen such cases, and my observations in this direction are also very numerous. I shall, therefore, abstain from mentioning any single case. There is, however, another pathological condition which I have repeatedly seen during recent years, and which I am unable to interpret in any other way except that it is due to rheumatism. These lesions are benign ulcerations of the pharynx. These ulcers I have seen only in persons afflicted with chronic rheumatism. Although most writers deny that there are erosions or ulcerations in chronic rheumatism, the similarity between the affection described by Heryng[2] under the above title, and my own observations, is so striking that I cannot but bring them together. First I will recite the cases. 1. Mr. J. M. B——, a manufacturer, aged thirty-four years, of this city, came to me October 7, 1893. He was complaining of an irritation in his throat which made him cough. Besides he had much pain in the left side of his throat, so that he hardly could swallow. He had caught a cold three days previous to his visit to me, and soon afterward felt it in the throat. Since nine years he is subject to rheumatism, and he gets these attacks a few times every year. He had a chronic nasal catarrh, lateral pharyngitis, and acute angina. Besides, he had on the left side of the pharyngeal wall, between the centre and the lateral wall, but nearer to the latter, an ulcer, which was so similar in appearance to that described by Theodor Heryng as benign ulceration of the pharynx, that I was forced to consider this as perfectly identical. The ulcer was about one centimetre long and seven to eight millimetres broad, covered with a grayish-white mass, which could not be wiped away. The neighboring parts were somewhat swollen and reddened. Under the impression that this was due to rheumatism, I gave salol internally, six grammes per day, and in three days the ulcer had disappeared. Exactly six months later, *i.e.*, on April 7th, the patient returned with the same complaints, and this time on the right side of the pharyngeal wall there was an ulcer. With the exception of a slight attack of articular rheumatism affecting his knees and feet, he had been perfectly free, until he again caught a cold the day before. I repeated the salol again, and in four days the ulcer had once more healed without a visible cicatrization.

Very similar was the following case of a lady, aged sixty-four, who, on her way from Montreal to this city, had caught a cold, and on the third day afterward consulted me with exactly the same ulcer on the left side as in the foregoing cases. This healed in a few days, and ten days later she had an outspoken polyarthritis rheumatica of the same severity as she had had for a year two years ago. The third case differed in so far as the ulcer was located on the right posterior pillar. The root of the tongue and the right glosso-epiglottic ligament were very much reddened. Healing in one week.

In the following two cases, men respectively aged thirty-nine and forty-two, the ulcer again was on the pharyngeal wall.

Now if we compare my cases with those observed by Heryng, we see that they differ only in one respect, the seat of the ulcers. He saw them always on the anterior pillar, while I only saw them in its vicinity. But I think this is merely accidental, as I do not see any reason why these ulcers should be located just at the anterior pillars. Nor does Heryng give any ex-

[1] Virchow's Archiv, Bd. xliv., p. 137; Seltene Gichtablagerungen.

[1] Berl. klin. Wochenschrift, p. 575. 1894.

[2] Theodor Heryng: Ueber benigne Pharynxgeschwucre. Sonder, Abdruck aus der Internat. Klin. Rundschau, Nos. 41 and 42. 1890.

planation for it. In other points the similarity is simply remarkable. We have always an ulcer which was one-sided, solitary, and which remained solitary too. It had a typical form and size, appeared under the picture of a catarrhal angina, and healed without leaving a cicatrix. These were the same conditions as in the cases reported by Heryng.

As to the pathogeny Heryng is doubtful. He could not find the cause in a cold, or excess in alcohol or tobacco, nor in anything else. But I think even such a close observer as Heryng is known to be, is apt to occasionally overlook things. But when his attention is drawn to it, he might find that the slight fever, the difficulty in swallowing, as well as the objective symptoms of redness of some parts or angina, are due to rheumatism concomitant, or after an interval followed by it. This will give him the explanation, also, why my patients who got salol were cured in three to six days, while his, without an antirheumatic treatment, took ten to twelve days before they were better. In this connection I might draw your attention to the article by Dr. B. F. Westbrook,[1] where extensive ulcerations of the pharynx took place due to rheumatism.

A bacteriological examination of the ulcers was not made, as they generally healed so very quickly. There was never associated with them syphilis, tuberculosis, nor what I will add here, diabetes. The ulcers remained always solitary. Whether, as Heryng mentions, they were in any way identical or not with the affection described by B. Fränkel as angina aphthosa, *i.e.*, stomatitis aphthosa, without aphthæ in the mouth, I am unable to answer.

Regarding the seat of these ulcers, I do not think we are as yet justified in speaking of certain parts which are predisposed to them. Heryng, whose so-called benign ulcerations of the pharynx I now accept as of rheumatic origin, found them at the anterior pillars; I saw them in four out of five cases on the pharyngeal wall, while Thorner considers the posterior pillars of the fauces (one case of mine), the root of the tongue, etc., as the places mostly predisposed to rheumatic attacks. The observations on these ulcerations, however, are not as yet numerous, and I hope future investigation will throw more light on this subject. I only intended to tell you what I have observed. The last points to be dealt with to-night are :

The Rheumatic Affections of the Nose.—For a long time I have tried my best, while searching the whole literature at my command, to find something that would throw light upon the following observations; but in vain. With the exception of a few remarks, which touched but superficially upon the subject, I found nothing.

It will most likely surprise you to hear of a new disease; but *a priori*, I do not see any reason why we should speak of rheumatism of the pharynx, of the larynx, and not of rheumatism of the nose. We have in this organ a mucous membrane which responds to the slightest deviation of the normal temperature with an inflammatory reaction, we have cartilages, muscles, and nerves just as well as in other organs. Only the articulations are not as typical here as on other parts of the body, but this is of little importance. Naturally, I will not call every little coryza, which follows a catching of cold, rheumatism of the nose, although a great many of these cases are of rheumatic origin. I shall limit myself only to chronic cases, which to my knowledge have not been described in literature. And of such cases, I must acknowledge, I have only comparatively few, but the symptoms and the course of the disease were such that I hope to convince you to-night of the existence of a distinct disease, *i.e.*, nasal rheumatism.

I saw two varieties of this disease : the one with visible changes in the nose, the other without them.

[1] A case of neurotrophic lesion of the tonsil, velum palati, and uvula, complicating multiple neuritis. The New York Medical Journal, November 17, 1894.

Case I.—Mrs. K——, about fifty-five years of age, came to me February 2, 1891. She complained of a cough, which was especially annoying evenings, and of dryness in the throat. On examination, I found a slight bronchitis, an atrophic condition of the nasal and pharyngeal mucosa, and an injection in the pharynx produced by the cough. I saw her twice, and then did not hear anything from her until she sent for me four weeks later. She told me that a few days before she had been stricken with one of her old attacks of articular rheumatism, the right knee and the larger joints of the upper extremities being affected. She had fever, which did not exceed 101° F. Her nose began to close up on the second day of this illness, and now it was entirely stopped up, so that she could not get any air through it. She had and has still headaches and pain in her nose, all of which together prevent her from sleeping. Externally nothing was seen except a slight redness of the whole nose, no swelling. On examination I did not find any parts of the head sensitive to the touch, but as soon as I touched the nose she felt a pain. She experienced the same when I put my speculum into her nose, and I found that the alæ nasi were the most sensitive. They were not thickened, however, nor was anything else visible that was abnormal and could thus explain the pain in this part. The entrance of the nose was free, but further up the whole nose was clogged by a swelling which I thought to be the thickened mucous membrane. There was also present a grayish-white secretion, which both together filled almost the entire lumen of both nostrils. After removing the purulent discharge I applied cocaine, but found that even a ten per cent. solution of it did not reduce the swelling at all. I gave her different medicines, but she did not feel easier on the second, nor on the third, day. On the fourth day only, after applying repeatedly a ten per cent. solution of cocaine, could she breathe somewhat through the nose, but an hour later everything was closed up again. However, she began to improve after that day, and now menthol oil applied on a a piece of cotton gave her some relief, so that she began to sleep during the night. At this time I could see very well that, after reducing the slight swelling of the mucosa of the septum with cocaine, the lower and middle turbinated bodies were very much swollen. On touching them with a probe they felt hard. There was no sign of an abscess.

The fever lasted until the tenth day and then ceased entirely. From the fourteenth day on there was permanently a free passage for the air. The pains in the nose had been at times so severe that they could only be relieved by large doses of morphia. With the improvement in breathing the pain in the nose grew less, until it gradually disappeared about the twentieth day of my treatment. At the same time her articular rheumatism had entirely left her, and she felt well again, although still somewhat weak. I had given her salicylate of soda and salol, but it never struck me that her rheumatism had anything to do with the affection in the nose, although I could not as yet explain all the symptoms in this case. I saw her a week later in my office, when I found her nose almost in the same condition as on her very first visit : the mucous membrane atrophic, the size of the middle and lower turbinated nearly normal, surely not enlarged, and a perfectly free passage for the air. She left for a milder climate and I heard afterward that she felt well.

A year later, March 14, 1892, I was summoned again to the house of this lady. She had, after a very cold spell, again her rheumatism, and at the same time exactly the same symptoms of the nose as last year. She wanted relief for the latter, as she could easily stand the other pains. This attack took the same course as the one of the previous year. The swelling of the turbinated bodies disappeared about the fourteenth day, and with this almost simultaneously the affections in the joints of the extremities. She had the same pain

in the nose and the same swelling and clogging. The last two winters the lady spent in Italy, and I have not heard anything further about her.

Case II.—Mr. M. B——, forty-one years of age, visited me November 9, 1893. He had had erysipelas of the right side of the face, from which he had recovered three weeks ago. Right afterward he noticed that he could not breathe through the nose. This is the reason why he cannot sleep well. Since eight days he has pain in the left side of the nose, and his old rheumatism set in again at the same time. On examination a small red area on the right cheek, over the zygomatic bone, was to be seen, a remnant of the erysipelas. Internally there was on the same side an outspoken atrophy of the mucous membrane and the turbinated bodies, and a mass of crusts filling the whole nostril. It is evident that in this condition lay the reason for the man's erysipelas. On the other, *i.e.*, left side of the nose, I saw a picture which reminded me very much of the former case. A grayish-white mass filling up the anterior portion, after the removal of which I saw the enlarged turbinated body touching the septum, so that absolutely no air could get through. The mucous membrane was red, like in a subacute catarrh, but with the probe it felt hard over the turbinated and the septum. Cocaine had no influence at all; it required treatment of over three weeks before this man could breathe through the left side of his nose. He was ordered hot baths and salol in large doses. His rheumatism disappeared almost entirely by this time, so that he could attend to his business. His pain in the nose, which was never as severe as in the former case, left him then also. Otherwise the course of this attack was so similar to that of the former case, that I do not need to describe it again. Suffice it to say, that when he left me his left nostril was perfectly free for the passage of air, so that there was absolutely no indication for taking away part of the turbinated bone or the like.

I gave the man orders for keeping his nostrils clean, and did not see him again until five weeks later. He was not over his old attack of rheumatism—his wrists being swollen yet—when, after exposure to extremely cold weather, a fresh attack set in together with the same symptoms in his left nostril, *i.e.*, obstruction and pain. The latter, though, was not very severe this time, and the patient, who gradually got accustomed to the obstruction, visited me irregularly. The weather was quite cold, and, in fact, he was afraid to leave his room. Thus he dragged along, sometimes feeling better and then worse, for two months, when his general articular rheumatism was very much improved and his nostril perfectly free. I have not heard from him since. Only in July I saw him once on the street, when he looked very well and said he felt so, too, in every respect. I wrote him last week, asking him to visit me for an examination, but he did not come. I have all reason, however, to believe that he is perfectly cured.

If we consider these two cases once more, we see that a peculiar affection of the nose, connected with pains, fever, and general weakness, set in right after or together with a fresh attack of articular rheumatism. With the improvement of the latter, or shortly before or afterward, the improvement of this peculiar affection goes hand in hand. As soon as a new attack of rheumatism came again, the nose became affected too. Besides, an antirheumatic treatment was the only one that had any effect on the nose; and now, gentlemen, I ask you what else can it be but a part of that general rheumatic state that had infected the whole system? There is no class of diseases in which it could be placed. Mulhall,[1] in a very interesting paper, describes a disease which he calls rhinitis œdematosa. But as the name already expresses it, there must be a condition, at least, similar to œdema, of which no trace was to be found in my cases. Another disease, which might come in question here, is the phlegmonous rhinitis. But in most cases the clinical appearance of a phlegmon in the nose is so widely different from our rheumatic affection, that it cannot be mistaken for it. There are, however, rare cases of phlegmon which remotely might resemble our cases. For these the following differentiation will be of importance: 1. The seat of the phlegmon is mostly the septum, and only in very rare cases the mucosa of a turbinated. 2. The phlegmon is covered by a mucosa, which is either of a decidedly red color (on the septum), or of a bluish-red where an abscess is forming. 3. The mucosa can reach the highest degree of an œdematous swelling, which goes over in some cases to the skin of the nose, the lower eyelids, and even to the whole face. 4. A phlegmon mostly occurs after a traumatism, which can be accidental or operative.

[1] New York Medical Journal, October 14, 1893.

The symptoms were entirely different in our cases. The septum was not affected at all, there was no swelling of any kind noticeable; no abscess was formed, the color of the mucosa was different, there was no œdema of any part of the mucosa, and there was no traumatism preceding the attack. The only symptom that was present in both diseases was the pain. But, of course, this alone cannot confirm a diagnosis, although I consider it of great importance in confirming the diagnosis of rheumatism. So I am compelled to consider the above cases as of purely rheumatic origin.

The second class of cases of rheumatic nose affections are those where visible anatomical changes can be found only to a small degree, or not at all. These cases seem to be more frequent than the former ones. It is a peculiar coincidence, and which I feel like mentioning here, that the above-cited cases concerned two very wealthy patients, while the following cases were all observed in dispensary practice, among very poor people.

Case I.—Mrs. Rose B——, aged twenty-two, a native of Russia, mother of one child, has had pain in the nose for two years. On examination I found as good as nothing, *i.e.*, a slight redness of the nasal mucosa. I therefore inquired further into her history, and found that she had pains in the limbs, and in the finger-, elbow-, and knee-joints. Sometimes she has a stinging pain in the nose and then the eyes begin to water. This lasts from one to three days. She has had this rheumatism since early childhood, and since four years it is severer, but it is seldom so severe that she cannot attend to her household duties.

After hearing this history I concluded that the pain in her nose must be of rheumatic origin, and gave her salicylate of soda. Three days later she felt free from pain in the nose. Whether she had been treated before in a rational manner for her rheumatism, could not be elicited from the woman. But a week later she had pains again, which again were relieved by the drug. So it went on during the whole winter and even during the summer. She had times when she was free from pains in the nose, and times when she had them again. Nevertheless salicylate of soda always relieved her. Since six weeks, *i.e.*, since beginning of June, however, she is free from all pains in the limbs as well as in the nose, so that I could consider her cured at least for the time being. Whether in the event of her remaining in her damp flat she will again develop symptoms of rheumatism next winter, is hard to say, but I am almost inclined to expect it.

Case II.—A weak old woman, sixty-five years of age, from Poland. She complained of great pain in the nose for about nine months. Three months before a projecting part of the middle turbinated bone had been removed in a dispensary, but the pains, if anything, became worse. On examination I found only slight redness at the right side of her nose covering the whole mucosa, and a post-nasal catarrh. I treated her for months, examined her carefully twice a week, and finally transferred her to the nerve department, as no improvement had been effected. But a few weeks

later she returned to me, complaining just as much as before. She was lying all day long on her bed, as she was unable to go about, so much pain did she have. One day, however, she told me that she was suffering from articular rheumatism. She had been subject to it for years, but it had not troubled her latterly. This brought back to my mind the cases I had treated before. I gave her salol, 6.0 grammes per diem, advised her to make hot applications over the nose frequently, and in a few weeks she was perfectly free from all pains. I have not heard anything of her since.

Case III.—A strong German boy, nineteen years of age, who was employed in a brewery. He was in that business for about a year, and had to run frequently from the ice-house to a very hot room. Since five months he had pain in the nose, for which he visited most of the clinics of this city. All that could be seen on rhinoscopic examination was an hyperæmia of the mucous membrane. Only when he told me that he had pains in other parts of the body, and especially in the back and on the right side, I gave more attention to him. I found that he had a dry pleurisy, for which he had been treated at the internal departments of the different dispensaries. I put him upon large doses of salicylate of soda (8.0 grammes per day); at the same time I advised him to apply wet packs around the chest every night. In three weeks the pain in the nose disappeared, and in seven weeks all the symptoms of the pleurisy. I heard of him a few weeks ago, and can state that he is well for over a year now. I must say, however, that on my advice he gave up his occupation and has exchanged it for a healthier one.

Slight pains in the nose with tearing in the limbs, etc., we see quite frequently in the dispensary, since our attention has been drawn to the fact that there is such a thing as rheumatic rhinitis. It would be too long to enumerate more cases, and especially such with slight affections, as they would only be repetitions of the former ones. But in all of them, where I tried successfully antirheumatic remedies, I think I was justified to make the diagnosis ex-juvantibus aut non-juvantibus. What had not been tried, especially in the second case! One colleague even went so far as to amputate a part of the middle turbinated, although the patient always could breathe well through her nose. I cannot blame him for that, as the woman's troubles were great and he tried to remove everything that seemed to be the cause of it. The pain in the nose of this patient was for a long time the only symptom of rheumatism, and I think, when we see more cases, we will find that in predisposed individuals this is often the case. This will prove a further similarity to laryngitis and pharyngitis rheumatica.

Now it will not appear so strange to speak of rheumatism of the nose, although the nose is not an organ of motion in the sense that the knee or elbow is. But we have to consider that we have here muscles and nerves, and I am sure that in some cases, where I could find nothing abnormal, there was a muscular rheumatism of the nose present; while in others, where I found the mucous membrane painful to the touch, it was very likely that the nerves were affected and that the nerve-filaments of the mucosa, being the most exposed, felt the touch most acutely.

Again, in the first two cases cited there must have been something else. We know that cartilages and bones are affected by rheumatism, and not only the epiphyses of the bones, but all parts of the bones (Sacharjin). So we can explain the terrible pain the first patient had on moving her alæ nasi as a rheumatic affection of the cartilages; while the swelling of the turbinated body was due to an enlargement of the bone itself, caused also by rheumatism. But as long as we have no autopsy of such a case, we only have conjectures as to the pathological anatomy of these swellings. However this may be, I hope you will agree with me, when I call these affections rheumatic after I had noticed that they all were combined with general rheumatism, and that all of them were, to say the least, improved by an antirheumatic treatment.

Gentlemen, the enthusiasm of a new idea is often apt to carry us away, and we often trace things into the circle of this idea which do not belong there. So it happened with me too. Whenever a patient came to me with pain in the nose and I could find no objective symptoms, I made the diagnosis, rhinitis rheumatica. It is possible that I made it too often. The following case, however, is a striking example to show how difficult the diagnosis sometimes is, when cerebral lesions are present too. These cases are important for the rhinologist as well as for the nerve specialist.

Mrs. B. O——, aged forty-three, has pain in her nose for three years. It began with itching, which became so terrible that she felt like tearing her nose off. She cannot blow her nose well. No discharge, nor any other symptom present. Eight years ago she had a miscarriage, but afterward had a child again. She has pains in the limbs, especially in the arms and hands, and feels it always when the weather is changing. At such times her left ankle is swollen.

On examination I found absolutely nothing abnormal in her nose. Her physicians told me that they had given her potassium iodide in large doses, without any effect. It is not more than natural that, under the favorable impression which my former cases had made on me, I thought I ought to make the same diagnosis here, and consequently I gave her an antirheumatic treatment. But instead of an improvement her pains grew worse daily, so that she became desperate. She wanted that something ought to be done to relieve her, and by all means wanted an operation. After a few weeks of fruitless treatment I had to give up the idea of rheumatism, and was really glad when I saw one day pus in the middle meatus. Transillumination gave no indication for an empyema, but I decided to make this small operation, with the slight hope that there might be found little pus in the antrum. Nothing, however, was found. The expected relief did not come; on the contrary the pains grew so badly that she was almost frantic, and I must say it was with much relief on my part when she left me. She went to some surgeons and neurologists afterward. Now I hear that she had been in Berlin for the same troubles a year or two ago. There she consulted different authorities, and Professor Mendel, who is one of these, writes that, as far as he could remember, the woman was suffering from a softening in the white substance due to an apoplectic infarct. But at the time he could not yet make a distinct diagnosis.

Dr. L. C. Gray, of this city, who saw her afterward, kindly gave me the following information about the patient. He writes: ". . . she was simply a case of anæmia so profound that it was of the pernicious type, and because of her home surroundings and the difficulty of getting her to follow my directions in full, she received very little benefit from my treatment."

I do not know where the patient is at present, but I do not doubt that some of you will have a chance yet to see her. So far, this case has been the only one where the mistake in the diagnosis has been made. I did not hesitate, however, to record this case, if for nothing else than for the purpose of showing you how puzzling some of these cases are, and how we might encounter in some of them cerebral lesions of a very obscure origin.

943 Madison Avenue.

The Dangers of the Communion Cup are purely imaginary, says our religious contemporary *The Churchman*, and thinks the discussion is not improbably excited by Roman Catholics to scare Protestants into giving up the use of wine at the communion service.

THE PREPARATION OF CATGUT.[1]

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FOR a long time surgeons have been impressed with the great unreliability of catgut for ligature purposes. Many different methods have been suggested for use in its preparation, most of them proving to be entirely unsatisfactory. Catgut is derived from the submucous layer of the intestine of the sheep. Owing to its source, it can readily be seen that raw gut must necessarily contain a considerable amount of fatty material, associated with which are a large number of bacteria.

It has been demonstrated by Koch and others that the anthrax spore, the reproductive element of the bacillus, has a greater resisting power than any bacterium yet known, or its reproductive element, and it is safe, therefore, to take this spore as the standard for test in the sterilization of catgut. Sheep are especially prone to anthrax, and the late Dr. Volkman recited a case of anthrax infection occurring at the Halle Clinic, which was undoubtedly due to catgut.

The methods most commonly used for preparing gut for ligature purposes are those employing heat, chemical solutions, or the action of both combined. The application of heat is probably best carried out in the method[2] suggested by Dr. George R. Fowler, of Brooklyn. He found that raw gut boiled in strong alcohol at a temperature of 79° C., was sterilized in an hour or little less. Dr. Fowler,[3] two years later, advocated the boiling of the gut in a closed tube nearly filled with alcohol. These methods, though good ones so far as the germicidal action is concerned, are very uncertain as to the condition of the gut after the boiling process has been completed.

Alcohol itself is very little of a germicide,[4] not affecting the anthrax spore in one hundred and ten days, the heat in Dr. Fowler's methods being the all-important factor. If catgut is heated to a temperature of 85° C. (185° F.) in alcohol, it is destroyed in a very short time.

I am indebted to the J. Ellwood Lee Company, of Conshohocken, Pa., for the following statement: "If catgut is boiled at a temperature a little above the boiling-point of alcohol (78.4° C.) it will make the gut deteriorate in strength." This accords exactly with my own personal experience.

The method of preparing the Fowler tube is as follows: The raw gut is placed in a glass tube nearly filled with alcohol and hermetically sealed, it is then heated to the boiling-point of the alcohol, and allowed to boil one hour. Boiling the alcohol in a closed tube increases the pressure on the liquid, thereby raising its boiling-point, and as this must not be above 85° C., you can see that you run great chances of producing a worthless article. It is far better in the heat-alcohol method to boil the alcohol under ordinary atmospheric pressure, as this gives a constant temperature and not as liable to mishap.

Dr. C. N. Dowd,[5] Surgeon to the New York Cancer Hospital, has suggested the use of an apparatus which carries out this idea perfectly, the apparatus being so constructed that the vapor of the alcohol is recondensed and is used over again.

Dr. Jay O. Nelson,[6] of Chicago, offers a practical suggestion in relation to the Dowd idea of recondensing the alcohol. Dr. Nelson uses an ordinary glass jar, containing sufficient absolute alcohol as to completely immerse the gut. The jar is set upright in a water-bath, and a good-sized piece of ice placed on top. As the vapor rises from the boiling liquid it comes in contact with the cool surface above, is condensed, and falls back into the jar. It is the practice of some to use fractional sterilization in the boiling alcohol process. This is entirely unnecessary, as bacteria development does not occur in ninety-five per cent. alcohol.

Another common method of heat sterilization is by substituting aniline oil in place of the alcohol. This method is possessed of no special advantage and has the disadvantage of being disagreeable to handle, and very liable to mishap, in that the boiling-point of the oil is about 180° C., and it needs constant care to see that the temperature, indicated by a thermometer immersed in the oil, does not go above the heat limitation of the gut. Dry heat is also used in sterilization; this method being advocated by several European hospitals. Such procedure requires a special apparatus for its completion and is not possessed of sufficient additional virtue to warrant the purchase of an expensive sterilizer, when the same end can be accomplished in an inexpensive way. The methods employing chemical agents consist mostly of carbolic acid and corrosive sublimate as the germicide, and are as a rule inferior to the heat alcohol method.

The use of oil of juniper[1] and chromic acid is advocated by some, but not universally endorsed. The one advantage chromic-acid preparations have over others, is that the gut is toughened by the process and rendered less absorbable, this being of value in certain instances, as in operations on the perineum and cervix.

With the object[2] in view of obtaining the most satisfactory method for preparing gut, not being satisfied with the results obtained by boiling it in alcohol, about two years and a half ago I communicated with most of the large hospitals of the country, asking their methods of preparation and the results obtained. Some indorsed the boiling-alcohol method, others stated that the results were doubtful, others used chemical solutions, and a few went so far as to say that catgut was no good for ligature purposes. After experimenting with most of the formulas furnished me (requiring a period of about eight months) I concluded that gut prepared by maceration in ethereal solutions of bichloride of mercury gave the most satisfactory results, in that it rendered the gut sterile, never destroyed its texture or strength, and required no special apparatus for its completion. The probable originator of the ethereal bichloride solution method was Dr. John C. Schapp,[3] of Brooklyn, and since then several men have experimented in that line. Dr. Louis C. Ager,[4] of the Hoagland Laboratory, has made the following bacteriological experiments with pieces of gut prepared by such method. Dr. Ager took a number of pieces of catgut suture, about an inch and a half long and sterilized them in an Arnold sterilizer for half an hour. These pieces were then soaked in an old sporulating culture of the anthrax bacillus for twenty-four hours. One piece was dropped into a tube of sterile beef-tea, and the others were put into an ethereal solution of the bichloride of mercury, about 1 to 1,000. Those in the bichloride solution were removed at intervals of five, ten, twenty, thirty, and sixty minutes, washed in sterilized water and dropped into tubes of sterile beef-tea. After sixty hours in the incubator there was a prolific growth in the control tube, but the others remained sterile. I have performed similar experiments, taking pieces of raw gut and soaking for sixteen hours in a sporulating culture of anthrax. These pieces were then treated by a formula, the details of which will be given later, washed in sterilized water and each piece planted in culture media. In not one instance was there any growth after eighty-four hours in the incu-

[1] Read before the Buffalo Academy of Medicine, Section on Pathology, December 18, 1894.

[2] MEDICAL RECORD, August 16, 1890.

[3] Brooklyn Medical Journal, March 10, 1892.

[4] Sternberg's Manual of Bacteriology.

[5] MEDICAL RECORD, December 3, 1892.

[6] Ibid., December 24, 1892.

[1] American Text-book of Gynecology.

[2] Bissell: Preparation of Catgut. New York Medical Journal, August 11, 1894.

[3] Schapp: New Method of Preparing Catgut. MEDICAL RECORD, July 13, 1889.

[4] Holden: Article on Catgut, Annals of Surgery, May, 1894.

bator. The experiments of Dr. Ager would seem to show that five minutes in an ethereal solution of the bichloride of mercury, 1 to 1,000, is sufficient to sterilize catgut, but there is a certain error to be considered. He did not experiment with the oil-laden raw gut, and my experience has been that it takes at least six hours to complete the process of sterilization. Sterilized silk threads impregnated with the anthrax spore, and then dipped in melted tallow, I found to be sterile after six hours' immersion in the bichloride solution. The bichloride method is as follows: place[1] the raw gut, after removing all colored silk, string, etc., in a 1 to 1,000 ethereal solution of bichloride of mercury and allow it to remain there from six to twelve hours, depending on the size of the gut, then wind on sterilized glass spools and place the spool containing the gut in the same solution for six hours longer. Wash in pure ether and then boil in absolute alcohol at atmospheric pressure for ten minutes, the object being to remove all traces of the bichloride. Gut prepared by this method is absolutely sterile.

Some may claim that the bichloride solution weakens its texture; on the contrary, it hardens it, for gut prepared by this formula will remain longer in a wound before being absorbed than the same size prepared by the heat-alcohol method. The ethereal solution overcomes the protection the oil and fat have against the action of the bichloride, and your germicide has a clear field.

Several large hospitals use methods which carry out the principle of the ethereal bichloride solution to the extreme. It is their practice to place the gut in a much stronger solution for a greater length of time than that suggested. This is entirely unnecessary, because the more manipulating and the stronger the chemicals used to complete the process of sterilization just so much more possible chance you run of injuring the strength of your ligature.

In order to ascertain if the fat was mostly removed by this process, I submitted a sample to Dr. Herbert M. Hill, professor of chemistry at the University of Buffalo, and Dr. Hill reported that after treating a prepared sample with ether at its boiling temperature for five hours and a half he was able to obtain a little less than two per cent. of fatty material, the samples of raw gut originally containing about twenty per cent. by weight. Dr. Hill also treated a similar prepared sample by boiling it in absolute alcohol for the same length of time. He was not only unsuccessful in obtaining any fatty material by this procedure, but the gut actually increased in weight and was rendered so brittle that it was worthless.

This method of preparing gut has been satisfactorily employed at Rochester City Hospital, the Whitbeck Private Hospital, in Rochester, N. Y., and by many surgeons in their private work in that city and others. It is now being given a thorough trial by Dr. Herman E. Mynter, surgeon to the Sisters' Hospital, in this city, and the result of Dr. Mynter's experiments will be given at a later date.

The only valid objection made to it, so far as I know, is that it takes at least twelve hours and ten minutes' time for its completion, with perhaps thirty minutes' actual work. I consider this method superior to the others in that it gives uniform results and there is no chance of mishap.

186 Allen Street.

The Suicide Season.—According to the statistics of suicide in London for the twenty years from 1865 to 1884, analyzed by Dr. Ogle, the favorite month for self-destruction is June, with 1,022 per 10,000 suicides, while December has but 697, the lowest figures of the entire year.

[1] Bissell: Preparation of Catgut, New York Medical Journal, August 11, 1894.

THE PREVENTION AND TREATMENT OF OPHTHALMIA NEONATORUM, AND THE NECESSITY FOR MORE EFFICIENT LEGISLATION TO PREVENT BLINDNESS FROM THIS CAUSE.[1]

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It is the purpose of this paper to prove that, although legislation to prevent the occurrence of blindness from ophthalmia neonatorum was effected in September, 1890, it has not been successful in materially reducing the disastrous effects of this disease; secondly, I wish to suggest a modification of the law which will, if enforced, be more certain to diminish the number of cases, or at least make it exceptional for blindness in one or both eyes to result.

Previous to speaking of necessary legislation, it will be well to review briefly the methods now used to prevent the occurrence of ophthalmia neonatorum, and to treat the disease in the exceptional cases in which proper prophylaxis has been unsuccessful, and in others in which the latter has been omitted.

Almost everyone is familiar with the great success which followed the introduction of Credé's method of prevention. Others had recognized the importance of prophylaxis, and had introduced preliminary disinfection of the vagina of the mother and the use of various applications to the eyes of the new-born (cleaning with water; dry cleansing; solutions of salicylic acid, of borax, of carbolic acid; chlorine water). Credé, however, was the first to advocate the use of an efficient germicide. His method is now carried out in the great majority of lying-in institutions all over the world. Immediately after delivery, the eyes are carefully cleansed with water, and then one drop of a two per cent. solution of nitrate of silver is allowed to fall upon the cornea; this procedure is very often followed by a little redness for a day or two, but no other reaction or inconvenience results.

The brilliant results achieved by Credé in his institute in Leipzig, in which the percentage of cases fell from 10.8 to 0.1 or 0.2 per cent., have been repeated wherever the method was vigorously adhered to. In New York the various lying-in asylums have been practically free from the disease during the past few years; they all employ Credé's method, using one per cent. or two per cent. solutions of silver, and, in addition, disinfecting vaginal irrigations previous to delivery. The following statements from some of these institutions will confirm this practical absence of ophthalmia neonatorum:

In the Sloane Maternity, Dr. E. A. Tucker, the house surgeon, reports that they have had no case of any account among four thousand births during the past six years; two per cent. solution of nitrate of silver and vaginal irrigation before delivery are employed.

Dr. E. J. Sherow, the house surgeon, has written me concerning the Nursery and Child's Hospital, that from July, 1891, to November, 1894, there have been five hundred and sixty-three births, with but one case of ophthalmia neonatorum, and this case was not a serious one; one per cent. solution of nitrate of silver is used.

I was unable to obtain statistical evidence bearing on this subject from the New York Maternity Hospital on Blackwell's Island, an institution averaging over three hundred births a year. Dr. Benjamin Torrens, the present house surgeon, informs me that cases of ophthalmia neonatorum are very uncommon, and cases which result in impairment of sight are rare. Recently,

[1] A paper read at the meeting of the Medical Society of the County of New York, November 26, 1894.

they have been using a saturated solution of boric acid in place of nitrate of silver, and the impression is that the results are just as good; it would be interesting, however, to have this impression verified by statistics.

The following table,[1] given by Fuchs in his admirable essay upon the subject, compares the number of cases of ophthalmia neonatorum occurring before, with those developing after, the introduction of various methods of prophylaxis:

A Comparison of the Frequency of Occurrence of Ophthalmia Neonatorum without Prophylaxis, with the Results of Various Preventive Methods.

Author.	No Prophylaxis.			After Prophylaxis.			
	Births.	Cases of Ophthalmia Neonatorum.	Per cent.	Prophylactic Method.	Births.	Cases of Ophthalmia Neonatorum.	Per cent.
Abegg[2]				Cleansing with water			3.0
Schirmer[3]				Dry cleansing	50	0	0
Bischoff[4]			5.6	Salicylic acid			2.6
Olshausen[5]	550	69	12.5	Carbolic acid, two per cent.; used after ligating the cord	137	12	8.8
Olshausen				Carbolic acid, two per cent.; used before ligating the cord	166	6	3.6
Kruckenberg[6]	1,266	92	7.3	Carbolic acid, two per cent	82	11	13.4
Koenigstein[7]	1,092	51	4.8	Carbolic acid, one per cent	1,541	21	1.4
Credé[8]	2,897	314	10.8	Nitrate of silver, two per cent	1,160	1 or 2	0.1 or 0.2
Koenigstein				Nitrate of silver, two per cent	1,250	9	0.7
Kruckenberg				Nitrate of silver, two per cent	730	1	0.14
Felsenreich	1,889	82	4.3	Nitrate of silver, two per cent. First period	3,000	58	1.9
Felsenreich				Nitrate of silver, two per cent. Second period	2,100	21	1.0
Simpson[9]			11.76	Nitrate of silver, two per cent			5.0
Bayer[10]	1,106	136	12.3	Nitrate of silver, two per cent	361	0	0

Personal inquiry has proven that a case of ophthalmia neonatorum is rare in the practice of obstetricians among the better classes. Under such circumstances, very few employ nitrate of silver, almost all depending upon the prophylactic effects of vaginal irrigation, general cleanliness, and cleansing the eyes with solution of boric acid; in the event of the occurrence of ophthalmia, proper treatment readily controls the inflammation, and loss of sight is a rarity. Thus it is evident that cases of ophthalmia neonatorum occurring in New York, are confined to the infants of the poorer classes in whom prophylaxis is omitted by the physician, nurse, or midwife; and even in such cases, blindness would rarely result if proper treatment were applied at a sufficiently early period.

In regard to treatment, there is a practical unanimity of opinion among oculists: 1, Frequent cleansing; 2, cold (or hot) compresses; 3, applications of one per cent. solution of nitrate of silver; 4, treatment of corneal complications.

Every case should be treated as soon as the slightest redness or swelling of the lids is noticed; for we can never be certain, at an early stage, whether such a condition is merely dependent upon a mild catarrhal conjunctivitis, which is seen very frequently in the new-born, or whether we are dealing with the commencement of a true (blenorrhœic) ophthalmia neonatorum.

The eyes should be cleansed very often—the frequency depending upon the amount of discharge; in severe cases, as often as every half-hour; in less severe cases, every hour. The head of the child being grasped between the knees of the physician or nurse, the hands held, and the feet permitted to remain free, the lids are separated gently with the fingers and a stream of lukewarm solution of boric acid is allowed to wash out all accumulated secretion. In separating the lids, we must be careful not to injure the cornea with the nails or with instruments, since the slightest abrasion will serve as a favorable point for the entrance of germs contained in the conjunctival discharge. If the lids are very much swollen, it may be necessary to employ retractors to separate them when we wish to inspect the cornea; but this will not be necessary for irrigation, and will rarely be necessary even for inspection of the cornea, if we remember to place the fingers at the tarsal margin of the infant's lids and not at some distance from the edges. As the discharge sometimes spurts when the lids are separated, the physician or attendant must be careful that none of this material enters his eyes. Various instruments have been devised to facilitate cleansing; one of these consists of a hollow retractor with numerous openings which allow the cleansing solution to wash out the conjunctival sac after insertion; another is a hollow eye-speculum arranged in the same manner; a third consists of an instrument resembling an ear-speculum. But none of these has found any degree of favor, and all are open to the objection of tending to injure the protective corneal epithelium.

A lukewarm, saturated solution of boric acid is employed most frequently as a cleansing fluid; or a solution of salt in the proportion of a teaspoonful to a pint of water may be used. Solutions of corrosive sublimate have been employed, but possess no advantage over boric acid or salt, and there is some question whether they may not act unfavorably upon the epithelium of the cornea. I am in the habit of using the small glass douche, known as the undine, holding from two to four ounces, and find that this method answers admirably for irrigation, and is far superior to the employment of bits of cotton with which to soak up the solution.

Iced cloths should be employed in the following manner: half a dozen small compresses, four-fold and one inch square, are placed directly upon a block of ice; from this they are transferred to the eyes, two at a time, the change being made every minute or two, depending upon how rapidly they become heated. Lint or lintine, which is cotton closely pressed into sheets, answers best for this purpose. The amount of exposure to these cold compresses depends upon the intensity of the inflammation; if the latter be very severe we should continue the applications uninterruptedly day and night; then, as the inflammation subsides, it is well to use the cold less continuously, say every other hour or every third hour, etc.

This is a part of the treatment which requires some judgment and experience, for excessive use of cold favors ulceration of the cornea. I have seen numbers of cases in which the cornea was sacrificed by this mistake. Unfortunately, in these cases we cannot receive information from the sensations of the patient—a valuable guide in cases of blenorrhœa in the adult. In general, it may be stated that as long as the lids continue red, swollen, and tense, cold is indicated, especially if the cornea remains perfectly clear. When the swelling, redness, and tension of the lids subside,

[1] Fuchs: Die Ursachen und die Verhütung der Blindheit, p. 129.
[2] Nagel's Jahresbericht f. Augenheilkunde, 1881, p. 337.
[3] Koenigstein.
[4] Horner: Handbuch der Kinderkrankheiten; v. Gehrhardt, Bd. 5, Abth. 2, p. 264.
[5] Berliner klin. Wochenschrift, 1881, No. 8.
[6] Archiv für Gynäkologie, Bd. 12, p. 329.
[7] Archiv für Kinderheilkunde, 1882.
[8] Archiv für Gynäkologie, Bd. 21, p. 181.
[9] Annales d'Oculistique, 90, p. 145.
[10] Archiv für Gynäkologie, Bd. 30.

we must be careful to reduce the length of exposure to the cold compresses; after these have subsided, if corneal ulceration is present, cold is positively harmful and hot compresses are indicated, just as in any other case of corneal ulceration.

It is not always a simple matter to decide when to reduce or stop cold, and when to apply heat. It is easy enough in cases occurring in robust infants, and when the cornea remains clear; we can then be guided entirely by the appearance of the lids. But given a case of ophthalmia neonatorum occurring in a feeble child (in whom we know that cold in general is not well borne), presenting marked and persistent swelling, redness and tension of the lids, and in whom the cornea shows ulceration, and we are confronted with a condition the treatment of which requires great judgment; it is difficult in such a case to decide whether to continue cold, to stop it, or to change to heat. In every case of this sort we must carefully watch the effect of any change in the temperature of the compresses.

Applications of one per cent. solution of nitrate of silver are useful after the first stage, when the lids begin to assume an appearance approaching the normal, and when the discharge becomes decidedly purulent and creamy. There is no advantage, and there is sometimes harm, in making these applications at an earlier period, and there does not seem to be anything gained by using a solution stronger than one per cent. After the lids have lost their angry appearance, they should be turned out gently and brushed with the silver solution once a day; excess of action is prevented by irrigation with water or solution of boric acid or of salt, immediately after the application, or after half a minute or a minute if we wish more decided action. There is now a tendency, among men who have had much experience with the treatment of this disease, to postpone the use of silver until the third or fourth week, and to use it then merely for the purpose of acting favorably upon the papillary swelling of the conjunctiva existing at this time.

Any extensive consideration of the treatment of complications, such as corneal ulceration and sloughing, staphyloma, prolapse of iris, etc., would not properly come within the scope of this paper. When corneal ulceration exists, it is well to instil one drop of a one-half per cent. solution of atropine once a day; though if the ulceration occur at the periphery and there is a tendency to prolapse of iris, one-third per cent solution of eserine may be indicated. There is a general tendency, even among oculists, not to make direct applications upon ulcers of the cornea occurring in the course of this disease; while this holds good for very extensive ulceration or sloughing, circumscribed ulcers can be advantageously treated by touching them from time to time with tincture of iodine, or even the actual cautery, especially if the inflammation of the lids has subsided. Recently I have seen a number of cases do well under cauterization; and there seems to be no reason at all why such ulcers should not be treated and prevented from spreading, exactly in the same manner as in the case of other infected ulcers. In the course of time, corneæ which seem hopelessly involved, sometimes clear up to an extent which permits some vision.

In treating cases of this disease we must not lose sight of the fact that the favorable response to our interference depends, to a certain extent, upon the general bodily condition of the infant, a fact to prove which Dr. Knapp cites some very forcible illustrations; it is a well-known fact that the most stubborn and disappointing cases are those in which the affection attacks the eyes of feeble and puny subjects.

In considering the subject of legislation for the prevention of blindness from ophthalmia neonatorum, we are justified in assuming that the loss of an eye from this disease means ignorance or negligence on the part of someone. In other words, blindness from this cause is practically preventable; hence the importance of the subject becomes the greater. Statistics from various countries show that about twenty per cent. of all blindness is due to this cause. Magnus[1] found twenty-three per cent. of the blind among young persons, and over ten per cent. among adults a larger proportion than from any other single cause. In the Illinois State Institution for the Education of the Blind, twenty-four per cent. of the cases were due to ophthalmia neonatorum.[2] In the New York State Asylum at Batavia, 19½ per cent. were blind from this disease,[3] and a similar proportion was found in the New York Institution for the Blind. There are at present over fifty thousand blind persons in the United States, and the last census (1890) shows eight hundred and five blind for every million inhabitants. If we consider that twenty per cent. of these fifty thousand were made blind by ophthalmia neonatorum, we can safely count upon a rapid decrease in the number after the introduction of effective legislation. That blindness is on the increase in the United States is shown by the following table:[4]

TABLE SHOWING NUMBER OF BLIND FROM 1850 TO 1890.

United States Census.	Number of blind.	Population.	Number of blind to 1,000,000 population.
1850	9,794	23,191,876	422
1860	12,658	.....	403.
1870	20,320	.....	527
1880	48,928	.....	976
1890	50,411	62,622,250	805

It is claimed that the apparent decrease in the proportion of blind from 1880 to 1890 is due to the fact, that in 1880 there were supplementary additions to the returns of the enumerators, such additions having been omitted in 1890.

An examination of the history of legislation for the prevention of blindness from ophthalmia neonatorum, shows that Switzerland was the first country to adopt such laws (1865); Prussia followed in 1878, Austria in 1882, and France in 1888. In this country, New York was the first State to inaugurate laws of this sort (1890). Since then similar legislation has been effected in Maine (1891), Rhode Island (1893), and in several other States. The New York law was passed chiefly through the efforts of Dr. Lucian Howe, of Buffalo, N. Y., and since its provisions have not become generally known, it may be well to add a copy:

An Act for the Prevention of Blindness.—

"1. Should any midwife or nurse having charge of an infant in this State, notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty of such midwife or nurse so having charge of such infant, to report the fact in writing, within six hours, to the health officer or some legally qualified practitioner of medicine of the city, town, or district in which the parents of the infant reside.

"2. Any failure to comply with the provisions of this act shall be punishable by a fine not to exceed one hundred dollars, or imprisonment not to exceed six months, or both.

"3. This act shall take effect on the first of September, eighteen hundred and ninety."

This law would appear to answer every indication; it provides that the management of such cases be taken out of the hands of midwives or nurses, and be entrusted to "legally qualified practitioners." We would expect a material reduction in the number of cases, or at least in the number of cases in which blindness results in one or both eyes. But my investigations have proven that such is not the case; the ophthalmic dispensaries of New York City treat almost as many cases

[1] Magnus: Die Blindheit: Ihre Entstehung und Ihre Verhütung, Breslau, 1883.
[2] Prince: MEDICAL RECORD, August 26, 1893.
[3] Howe: Proceedings of the American Ophthalmological Society, 1890.
[4] Bettmann: Journal of the American Medical Association, May 19, 1894.

of ophthalmia neonatorum, in proportion to the total number of eye cases, as they did before the passage of this law. The following tables will prove this:

TABLE SHOWING THE NUMBER OF CASES OF OPHTHALMIA NEONATORUM TREATED AT THE VARIOUS EYE CLINICS OF NEW YORK CITY, FROM 1888 TO 1894.

Year.	Total number of eye cases.	Number of cases of ophthalmia neonatorum.	Cases per 1,000 eye patients.
1888	5,212	36	7.0
1889	5,517	30	5.0
1890	6,052	18	3.0
1891	6,367	43	7.0
1892	7,355	31	4.0
1893	6,961	20	3.0
NEW YORK OPHTHALMIC AND AURAL INSTITUTE.			
3 years. 1888, 1889, 1890	16,781	84	5.0
3 years. 1891, 1892, 1893	20,683	94	4.54
1888	6,081	28	4.0
1889	6,511	41	6.0
1890	7,197	28	4.0
1891	8,362	40	5.0
1892	9,720	35	3.0
1893	10,640	44	4.0
MANHATTAN EYE AND EAR HOSPITAL.			
3 years. 1888, 1889, 1890	19,789	97	5.0
3 years. 1891, 1892, 1893	28,722	119	4.33
1888	12,057	88	7.0
1889	12,782	81	6.0
1890	13,382	93	7.0
1891	14,502	117	8.0
1892	15,381	74	5.0
1893	14,425	65	4.5
NEW YORK EYE AND EAR INFIRMARY.			
3 years. 1888, 1889, 1890	38,221	262	6.85
3 years. 1891, 1892, 1893	44,308	256	5.77
1889	657	4	6.0
1890	918	5	5.0
1891	1,027	7	6.0
1892	1,196	4	4.0
1893	1,557	8	5.0
NEW AMSTERDAM EYE AND EAR HOSPITAL.			
2 years. 1889, 1890	1,575	9	6.0
3 years. 1891, 1892, 1893	3,780	19	5.0
3 years. 1888, 1889, 1890	76,366	452	5.92
TOTAL OF FOUR INSTITUTIONS.			
3 years. 1891, 1892, 1893	97,493	488	5.0

A glance at the results given by these tables shows that among 76,366 cases for the three years, 1888, 1889, and 1890, there were 452 cases of ophthalmia neonatorum (5.92 per thousand); while during 1891, 1892, and 1893, among 97,493 cases, there were 488 cases (5.00 per thousand). Thus there has been a reduction of less than one case per thousand since legislation has attempted to diminish blindness from this cause. The actual reduction becomes still less, if we allow for the great increase in the proportion of cases of errors of refraction in dispensary practice, for the past three years, as compared to the previous three years, statistics from these same institutions showing this proportion to have increased from twenty-two per cent. during the first period to thirty per cent. during the second.

I am aware of the fact that there might be diminution in the number of cases of blindness, even though the cases of ophthalmia neonatorum which present themselves at the dispensaries showed but slight reduction in number; but this would imply that the general run of such cases was of a milder type than formerly; clinical experience, however, shows that the proportion of cases in which infants are brought for treatment with the cornea hopelessly involved, is just as great as ever. And in the short period of three years the data furnished by the institutions for the care of the blind would be of no value, since such admissions are not made until some years after.

If in these four institutions 137 cases have been treated during the year 1893, it is safe to assume that at least 500 cases apply for treatment at the various dispensaries in New York City annually; of these, probably one-half result in blindness of one or both eyes, owing to the fact that irremediable damage has been done before proper authorities have been consulted; thus, 250 cases of such blindness are seen in the dispensaries alone. It is, of course, impossible to say how many other cases, which are never brought to dispensaries, are sacrificed to ignorance or negligence. Dr. Howe has estimated that the cost of supporting the blind in New York State amounts, directly and indirectly, to a million and a half dollars per annum. Aside from philanthropic motives, therefore, the passage of a really efficient law would be of immense advantage from an economic standpoint.

There are several reasons why the present New York law has not had the desired effect. To enumerate briefly:

1. The provisions of the law have not become generally known among the profession and among midwives and nurses. No attempt has been made to call attention to it. This being the case, midwives would become aware of its existence only through a large number of convictions, with consequent fines and imprisonment for violation. Not more than twelve cases have been prosecuted and convicted since the law became operative.

2. The term "legally qualified practitioner of medicine" allows the midwife or nurse great latitude in the selection of someone to whom to report.

3. The process of prosecution of an infringement of the law involves so much loss of time to the informant—the general practitioner or oculist—that the lack of enthusiasm shown in this direction is not surprising. The New York Society for the Prevention of Cruelty to Children is not only willing but anxious to prosecute every case of violation, but it can only obtain necessary information from the physician who sees the case after the damage to the eyes is done. Through the courtesy of Mr. Jenkins, the superintendent of this society, I have obtained much information concerning the steps necessary in prosecuting. The physician who meets with a case in which non-compliance with the law has resulted in injury to one or both eyes of a child, reports the case to the society; the latter conducts the prosecution, but the physician remains the main reliance in securing a conviction, and without his attendance at the courts they cannot succeed. This involves a loss of time, first at the Police Court on one or two occasions (twice, if the midwife secures an adjournment—

and this the law allows); if she is committed, her trial takes place at some future date in the Court of General Sessions. In the Police Court trials, it can generally be arranged to have the case called at an hour suiting the physician's convenience. In the second trial, he must present himself at 10.30 A.M. and wait until the case is called. If the woman possesses a few dollars with which to engage a lawyer, she can secure an adjournment; in such a case, the physician is compelled to be on hand some other morning at 10.30 A.M., and wait for his chance to testify. After such a tedious process he may have the satisfaction of having caused the punishment of a woman who has added to the number of blind through her ignorance or carelessness; but even this feeling of satisfaction is apt to be limited when the midwife is fined but a small amount; he has lost a great deal of time and considerable practice—practically he has given up two mornings and one or two afternoons, and has suffered many inconveniences. Is it surprising that his philanthropic ardor becomes colder after one such experience? Since September, 1890, there have been but twelve prosecutions; all of these resulted in convictions. In every case a fine was imposed; in most cases it was small, in many only $10, in one case $100. In no case was the misdemeanor punished by imprisonment.

For these reasons some modification of the law is absolutely essential. I would suggest the following as answering every indication, and as tending to be effective: Every case of ophthalmia neonatorum should be reported to the local board of health or health officer—whether such a case occurs in private practice or in an asylum, whether under the care of a practitioner of medicine or of a midwife or nurse. In the case of a practitioner, whether in private practice or in an asylum, the board of health or health officer need not interfere. In the case of a midwife or nurse, it should be the duty of this board, or of the health officer of the locality, to send an inspector, upon whom the responsibility of the case will then rest. If he finds that the midwife or nurse has called in a competent physician and that the child is being properly treated, there will be no occasion for further interference; but if he discovers that this has not been done, it shall be his duty to assume charge of the case and to see that the child is properly treated, either at its home or at some hospital or dispensary. He will then also be able to serve as a witness in the prosecution of such cases, and since he is in the employ of the city or town, he will not be justified in finding fault if part of his time is occupied in the courts. I would suggest that the Medical Society of the County of New York appoint a committee who shall draft a bill on these lines, or modified as they see fit.

This subject is extremely important, both from a philanthropic and an economic standpoint. Every case of blindness prevented means a saving of a large sum to the city or State. Under such circumstances the State or city could well afford the salary of the necessary inspectors. As showing the possibilities of proper legislation for the prevention of blindness from ophthalmia neonatorum, I cannot do better than to close with the remarks of Dr. A. E. Prince, of Springfield, Ill., who in speaking on this subject before the Illinois State Medical Society, at its meeting in May, 1893, said: "Professor Horner became the champion of the legislative efforts, and devoted himself, through his personality and skill, toward increasing the efficiency of the law. During his lifetime he proudly enjoyed the knowledge of the fact that no child, born since 1865, was admitted into the large institution for the blind of Zurich with sight lost from ophthalmia neonatorum."

If this result was possible in Switzerland, we should at least make every effort to duplicate it in New York.

692 MADISON AVENUE.

The Practitioner is now under the editorship of Mr. Malcolm Morris.

Progress of Medical Science.

Cardiac Liver.—According to the Paris correspondent of the *Medical Press*, Professor Hanot has recently delivered an address on this subject of which the following is a *résumé*: The importance of heart disease in the pathology of the liver is easy to comprehend; the liver sends all the blood it receives, both from the portal vein and the hepatic artery, almost immediately to the right heart by the vena cava, and consequently the trouble in the circulation of the heart must have a considerable influence on that of the liver. Congestion of the cardiac organ must be followed by congestion in the hepatic veins, producing more or less compression of the cellular elements of the liver. But this congestion is not confined to the veins, it is propagated to the capillaries, and then to the ultimate branches of the portal vein, and finally to the vessels of the spleen, pancreas, and to the gastro-intestinal mucous membrane. It is consequently easy to understand that in heart disease the liver is not only increased in volume, but is seriously affected in the *ensemble* of its important functions. Mr. Hanot, in order to render his lecture more intelligible, traced the history of two cases under treatment in the wards. The first was that of a woman affected with mitral stenosis of rheumatic origin. She entered the hospital complaining of progressive weakness and constant oppression. Beside a souffle at the heart the patient presented evident signs of œdematous congestion at the base of both lungs and a slight œdema of the ankles. The liver was not increased in volume, but a little painful to the touch; no albumin was found in the urine, but on the other hand distinct traces of urobiline were discovered, showing that the liver was already disturbed in its functions. Rest, milk diet, and a little digitalis cleared away all the bad symptoms, and the woman left the hospital. This was a case of simple congestion.

The second case was of an extreme type. A young woman, after two pregnancies, remarked that her abdomen increased rapidly in volume, and when examined, ascites was diagnosed, and the large amount of liquid was accompanied by œdema of the lower limbs. The abdomen was covered with tortuous veins and very distended. The patient was tapped several times, but finally succumbed from marasmus. At the autopsy the heart was found diseased, while the liver was greatly diminished in volume. The origin of the cirrhosis was evidently cardiac, as the woman never took alcohol. Between these two extremes just cited there exist numerous intermediate morbid conditions in which the difference does not consist only in the degree of hepatic congestion, but in the previous state of the organ. Frequently the liver is the seat of disease, derived from alcoholism, successive pregnancies, infectious maladies, etc., simultaneously with an affection of the heart. All cardiac diseases do not, however, affect the liver in the same manner. Mitral stenosis produces the true cardiac liver, while affections of the aortic and tricuspid orifices produce but little alteration in the hepatic organ. The congestion varies in degree; sometimes it is but little marked; the complaints of tension and a sense of weight in the right hypochondrium; the liver is painful to pressure. In more advanced cases the organ is considerably increased in size, and the patients suffer from nausea, vomiting, constipation, or diarrhœa; the urine is diminished in quantity and its density increased; jaundice is frequently observed, but rarely ascites. The treatment is frequently subordinate to the primary cause (the heart), but where the hepatic symptoms predominate milk diet, purgatives, and dry or wet cupping will generally diminish the congestion of the liver and bring it back to its normal volume, causing to cease at the same time the tenderness and the dyspnœa.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE PHYSIOLOGY AND SURGERY OF THE SPLEEN.

IN ancient days the spleen was considered the source of gladness, the *organon risus*. The relation of the viscera to the emotions was told in this way, says *The Medical Magazine:*

> "Cor sentit, pulmo loquitur, fel continet iras,
> Splen ridere, facit, cogit amore jecur."

In later times the spleen got quite a different reputation, and to be "splenetic" was identical with being of irritable humor.

Modern researches show that the functions of the spleen are not connected with emotional states, and that its duties are of a minor character. Of all large organs the spleen is the least necessary to human existence. The present knowledge of the functions of the spleen includes rather more than this, but we are as yet not fully acquainted with its precise work in the economy.

If studious research and laborious experiment could furnish a key to the mysteries of the spleen, it would certainly be found in a monograph by Vulpius, recently published in the *Beitrâge zur Klinische Chirurgie*, Bd. xi., 1894. The article in question is entitled "The Surgery and Physiology of the Spleen." The author has collected all the statistics of splenectomy, and finds that the cases number 117. In 58, or 49.6 per cent., death occurred. Eliminating the cases in which the operation was done unadvisably for leukæmia, he finds the mortality to be 34.1 per cent. The spleen is, therefore, an organ which is susceptible of legitimate surgical attack, except in leukæmia, "chronic congestion," and amyloid degeneration. Turning to the physiological side of the question, Vulpius quotes the results of an enormous number of investigations by physiologists, biologists, and clinicians.

Many of the facts given are most interesting, even though they do not of themselves prove precisely what the spleen is intended for. Thus it is found that the spleen swells in acute anæmia from hemorrhage; and while the spleen is thus congested the blood is found to contain the maximum of red cells and minimum of white.

Several experimenters have found that animals survive extirpation of both the thyroid and spleen. In a few cases the thyroid swells after removal of the spleen; but, says Vulpius, "the rarity of this complication, its timely subsidence, and the result of experiments upon animals would tend to preclude the hypothesis that the thyroid and the spleen have the same function. These rare instances of swelling of the gland may be accounted for upon the ground of congestion or blood-changes."

As there is no splenic development after the total removal of the human spleen, the vicarious hypertrophy of an accessory spleen may be considered. Such organs have been found not only in animals, especially in dogs, but are frequently met with in the human subject. When present, they have been found one or more within the ligamentum gastrolienale. They are of a roundish form, without a hilus, and the size of a bean or hazel-nut, or larger.

Rosenmuller saw among four hundred cadavers in North Germany one accessory spleen the size of a walnut. In Southern Europe he found this anomaly in five out of eighty cases. Giesker confirmed the observation of Dupuytren, that this condition is common in young persons, and especially in fœtuses.

It is, therefore, very probable that these accessory organs can assume the function of the extirpated spleen. Unfortunately, the opportunity has never been afforded of making an autopsy upon a person who had survived the operation of splenectomy.

Vulpius has arrived at the following general conclusions concerning the physiology of the spleen: "1. Histological study of the normal splenic tissue shows the possibility but not the certainty of the entrance of colorless cells in the circulation from the spleen. It is evident that the red cells undergo disintegration in the spleen, but there is no ground for assuming that they are formed in the spleen. 2. Comparison of the blood of the splenic artery and vein shows no positive difference. 3. In acute general anæmia the spleen shows signs of increased activity. 4. Removal of the spleen causes a transient decrease in the number of red, and increase in the number of white, blood-cells. 5. The thyroid gland has no vicarious relation to the spleen. 6. The lymph-nodules and the bone-marrow acquire an increased blood-forming activity after extirpation of the spleen. 7. The regeneration of blood is retarded after hemorrhage in persons without spleens."

"These conclusions," says Dr. J. P. Warlasse, who reviews Vulpius's work in *The Annals of Surgery*, "though contradicting certain accepted teachings, offer little that is new, but are of value in that they are based upon accurate scientific data."

Examination of Sputum for Tuberculosis.—Sputum should be collected only in clean, wide-mouthed, well-stoppered bottles, with a capacity of at least four ounces. Suitable bottles can be obtained at any of the depots for the distribution and collection of diphtheria culture-tubes. Care should be taken that bronchial and not pharyngeal secretion is collected, and the expectoration discharged early in the morning is to be preferred. If the expectoration is scanty, the entire amount discharged in twenty-four hours should be collected.—NEW YORK CITY BOARD OF HEALTH.

THE NAVAL MEDICAL SERVICE.

A CURIOUS contrast between the Army and Navy, as regards their respective medical departments, is afforded by the annual reports of the medical chiefs of each service. The Surgeon-General of the Army devoted a large part of his report to deploring the reduction in the number of assistant surgeons recently made by Congress, and said that many candidates who were waiting for examination had been turned away for the reason that there were no vacancies. The Surgeon-General of the Navy, on the other hand, said that there were still eight vacancies in the medical corps, notwithstanding that every reasonable effort had been made to fill them. During the year thirty permits were issued to candidates to appear before the naval examining boards, and of this number only three were found physically and professionally qualified for admission as assistant surgeons. This record, showing a rejection of eighty-five per cent. of candidates examined, Dr. Tryon very truly says, "is not satisfactory, particularly when we contrast the large number of properly qualified applicants for similar positions in the Army and Marine Hospital services, and the promptness with which such vacancies are filled. The examination to which candidates for admission are subjected is in accord with the teaching and requirements of our medical schools, being within the capacity of every young medical man properly equipped for the practice of his profession, and the large percentage of failures, as shown by the record of the examining board, can only be accounted for on the supposition that the naval service, from lack of suitable inducements, does not attract the class of men who would tend to advance the standard of professional excellence, or from whom the highest degree of medical and military efficiency might be expected."

It is easy enough to understand that medical graduates do not care to enter a service where they are ranked and made to mess with boys just from the Naval Academy, but it is not so easy to understand why the conditions that make the service especially undesirable are not changed. For many young men, with no special ties, life in the Navy would naturally have much greater attractions than life in the Army, and if the unnecessary humiliations of the earlier years in the service were done away with, any other disagreeable features which are inseparable from a life on board ship would be willingly borne. The examination for admission to the grade of assistant surgeon in the Navy is no more difficult than is that for the Army medical service, yet fewer men come up for it and a smaller proportion of those who do come up are successful. Possibly, now that the Army is closed for a time to medical graduates, the Navy will profit and be able to fill the vacancies in its medical service; but appointments in this service will never be eagerly sought for until a radical change is made in the subsequent treatment of the successful candidate.

The present Surgeon-General is thoroughly alive to the deficiencies and the needs of the medical service. He has already done much to raise the standard of its efficiency, and perhaps he may yet succeed in making an appointment to it something to be eagerly competed for.

SHOULD WOMAN RIDE HORSEBACK ASTRIDE?

ONE of the riding-masters of a popular riding-school in this city has proposed to give a course of lectures on equestrianism in all its phases. He further proposes to devote a whole evening to the discussion of the question, Should woman ride horseback astride? The questions which he will deal with, put more categorically, are these:

"Is there any reason why the sense of propriety should hinder a woman from riding on horseback astride?

"Is there any reason why a costume, both elegant and modest in design, and which reveals less of a woman's form than the habit worn for the last years, should not be used by woman when riding?

"Will it add to the comfort, ease, repose, relaxation, and firmness in woman's seat on horseback, and thereby increase endurance and facilitate the learning of horsemanship for woman?

"What is the opinion of competent and learned physicians as to the advisability of riding astride, from a physiological standpoint?"

We are sure that many, if not all, of our readers will say that there is absolutely no physiological reason why woman should not ride astride; but probably none of those who say this will consent to let their wives or daughters ride in this way.

The mighty power of fashion, custom, and habit is infinitely stronger than that of reason, logic, or physiology. There are probably more reasons why man should ride side-saddle than that woman should not sit in the natural bifurcated position; for the disease of the Scythians was produced by this latter posture as assumed by the male.

Perhaps, however, some of our readers can conjure up some real physiological argument in favor of the side-saddle style; and if so, we shall be glad to hear from him. So far as physiology goes, it teaches that man should ride side-saddle and woman astride. This may be the final evolution of the matter.

REPORTERS AND MEDICAL SOCIETIES.

AT the opening of the last meeting of the Cincinnati Academy of Medicine, says *The Cincinnati Lancet and Clinic*, one of the members rose to a question of privilege, in which he stated that, inasmuch as the Academy is a constituent part of the Ohio State Medical Society and of the American Medical Association, and, as such, professes allegiance to the Code of Ethics of the latter body, attention was called to the frequent presence of newspaper reporters at the meetings, and to the publication of case reports in the daily papers. Whereupon the presiding officer said the point was well taken, and if newspaper reporters were present they would please retire from the room. Three note-books were folded up and their possessors adjourned.

At the New York Academy of Medicine, and at the meetings of the New York County Medical Society, there are always seats reserved for reporters, who are welcome to give to the public anything that is of interest to it. At the meetings of the American Medical

Association, the proceedings are always reported in the daily papers, and we have observed that frequently pictures of the prominent members are to be seen in the columns. The meetings of the Académie de Médecine of Paris are always public, and so are those of all the learned bodies throughout the world. There is nothing specially mysterious or sacred about the discussions in medical societies, nor is there any good reason why they should be held in secrecy. As a matter of fact, they are usually too technical to have any general interest. But we see no reason why the public should not hear what physicians say in open discussion about matters that concern the general welfare. If medical societies degenerate into occasions for bickering and quarrelling, and the airing of personal grievances, their sessions might well be made secret. But there is no other good reason, and we fear that the infant Cincinnati Academy has done a very silly thing. Are its words more precious than those of the Academy of Paris?

A QUESTION OF ETHICS.

A DELICATE question of ethics has been raised by the editor of the *Columbus Medical Journal*. It seems that the medical director of a large and wealthy life insurance company wrote to Dr. Reed, asking his opinion as to the character, standing, and professional skill of a physician who had applied for the position of medical examiner. Dr. Reed promptly replied, giving the desired information and enclosing a bill, with this comment:

"I herewith enclose my bill for services to your company for this information. While I consider it a courtesy to Dr. S——, which I willingly grant, at the same time I consider it of value to your company to know that he is able to do this work, and that when a physician is asked by your company to stand at the back of another, under these circumstances, and especially where so much is involved as there is in your case, that the company asking the same should pay for such services the same as any other professional services."

The medical director thereupon returned the letter of endorsement and bill, with the statement that there was a misunderstanding, that the endorsement had been requested as an act of courtesy to the applicant for position as medical examiner, and the bill would not be paid.

Dr. Reed contends editorially, that when companies ask for information they ought to pay for it. If, for example, he had been obliged to say that the doctor was not a proper kind of man for the place, the company would have been richer in knowledge, and no act of brotherly courtesy would have been performed.

Looking at the matter from a purely business standpoint, it appears that the doctor must be right and the company wrong. Corporations are obliged to get information regarding applicants. It is a matter of dollars and cents to them; they have always relied upon professional courtesy, and probably will continue to do so. But in cases, at least, in which the information is not "courteous," it seems as if the company had enriched itself without giving any returns.

News of the Week.

The Late Dr. A. L. Loomis.—At a special meeting of the Medical Board of Bellevue Hospital, held January 24, 1895, to take action on the death of Professor Alfred L. Loomis, M.D., LL.D., the following resolutions were entered on the minutes of the Board:

Resolved, That by the death of Dr. Alfred L. Loomis the members of the Medical Board lose a faithful and respected associate, the profession a brilliant and honored member, and the people a wise and vigilant public servant.

Resolved, That the members of the Medical Board do sympathize most deeply with his family in their sad bereavement.

Resolved, That these resolutions be sent to the family and be published in the secular and professional press.

ALEXANDER LAMBERT, M.D.,
Secretary Medical Board.

Dr. William E. Wirt.—In the announcement of the election of officers of the Cleveland Medical Society, Dr. William E. Weir was named as President, instead of Dr. William E. Wirt.

Deutsche Aertze-Zeitung is the title of a new German weekly published at Berlin and edited by Drs. Arthur Hartmann and R. Kossmann.

Obituary Notes.—Dr. Cyrus Falconer died in Hamilton, O., January 28th, in the eighty-fifth year of his age. Dr. Falconer graduated in the Cincinnati Medical College in 1837, since which time he had been continuously a practitioner in Hamilton.—Dr. Jamin Strong, for many years Superintendent of the Cleveland Hospital for the Insane, died at his home, January 30th, aged seventy years.

One of the Curiosities of Surgical Therapeutics is the treatment of tubercular peritonitis by insufflations of air (H. Folet, *Revue de Chirurgie*). After removing serous fluid with an aspirator, the peritoneum is blown up like a bag, three or four litres of air being thrown in. The results are said to be good.

New Discoveries in Brain Physiology.—The London lay press has been heralding what is regarded as a new and remarkable discovery in brain physiology. Strictly speaking, the discovery is anatomical rather than physiological. The discovery now on the *tapis*, says the *Medical Press*, is that of Professor Flechsig, Rector of the University of Leipsic. According to a Berlin correspondent it amounts to this, that within the cortex of the cerebrum four connected plexuses are definable, closely resembling one another, but essentially differing from the other parts of the cerebrum in anatomical structure. These four centres lie in the forepart of the "frontal cerebrum," in the temporal lobe, in the hinder lobe, and in the parietal lobule. They clearly differentiate the human brain from that of the lower animals, and they do not exist in new-born children. Flechsig calls them "intellectual centres," or "centres of association," because they concentrate the activities of the organs of sense into higher units. They are connected by numerous systems of fibres. Flechsig draws

a contrast between them and the "centres of sense," the centres of sight, hearing, smell, touch, etc., which produce lower units. He holds that it is only in the centres of association with which these centres of sense are connected by innumerable nerve-fibres that their contents are converted into thoughts. In assuming so much—for we have yet to learn that it is more than assumption—Flechsig is not content. He goes further, and says that these centres of association elaborate the impressions of the senses, their activity being directly wholly inwards, "they are the bearers of all that we call experience, knowledge, cognizance, principles and higher feelings, and also of language." The new "discovery" is evidently only an elaboration and practical application to psychology of old and well-known facts.

The Claim of a Lady Surgeon.—The concurrence of the House during the past week in the Senate bill for the relief of Surgeon Clapp will doubtless, says *The Sun*, adjust a claim that arose a generation ago. This lady, who is a graduate of the Medical College at Oberlin, was employed, it appears, although of course not commissioned, as a surgeon of a volunteer cavalry regiment from November 15, to December 27, 1861, and as an assistant surgeon of cavalry from the latter date to August 25, 1862. These services were rendered prior to her marriage, under her maiden name of Sarah A. Chadwick, which may perhaps be recalled by survivors of the Seventh Illinois Cavalry. The regiment was at that time stationed at Cairo, or else on the other side of the Mississippi River; and Mr. Henderson, of Illinois, in recommending the claim of Dr. Sarah A. Clapp, said that "she rendered valuable service, so valuable that the regiment wanted her as its surgeon, but those in authority were unwilling to appoint a woman." The case is certainly very interesting, and furnishes a well-attested addition to the records of military services performed by the gentler sex during the civil war. It is also a little remarkable that Mrs. Clapp did not present her claim until the lapse of a quarter of a century. However, the House disposed of the matter in a very few minutes after it was presented. The bill carries, we believe, $700 or $800.

The West End Medical Society.—At a meeting of this Society, held February 2d, the following officers were elected: *President*, Dr. F. M. Crandall; *Vice-President*, Dr. Le Roy Brown; *Treasurer*, Dr. H. G. Myers; *Recording Secretary*, Dr. F. J. Brockway; *Corresponding Secretary*, Dr. E. Harris; *Pathologist*, Dr. J. S. Ely.

The Serum Therapeutics of Pneumonia.—At the time when the attention of the medical world is directed to the serum therapeutics of diphtheria and tetanus, a short review of the same method of treatment as applied to pneumonia, given in *L'Union Médicale* of December 8, 1894, may prove of interest. Numerous experiments have been made on animals, and several attempts have been made to treat patients in the same manner. Drs. F. and G. Klemperer have treated twelve cases of pneumonia with the serum of rabbits rendered artificially immune. Each dose consisted of from five to ten c.c. injected under the skin of the buttock. Eliminating five of the cases in which crisis resulted as in the ordinary course of the disease, in the remaining seven each time the serum was administered there was a diminution in the height of the temperature and in the frequency of the pulse and respiration, and the patients made a good recovery. They have also injected eight patients with cultures of the pneumococcus which had been heated to 60° C., and so deprived of toxicity. The results were very satisfactory, the temperature falling soon after the injections. They also inoculated patients with the serum of other patients suffering from pneumonia, obtained immediately after the crisis. After the inoculations the temperature became lower, and frequently defervescence at once followed. Foa and Carbone reported a case of pneumonia which was arrested on the fourth day after injections of the serum of a vaccinated rabbit. Foa and Scolia injected ten patients suffering from pneumonia with from five to seven c.c. of the serum of rabbits which had been rendered immune, the injections being given under the skin of the back. In some of the cases as many as three injections were given; in these (four in number) the crisis appeared to be hastened. Jansen also records cases in which this treatment was adopted with success. Lava has treated ten cases of pneumonia with injections of the blood-serum products obtained from the viscera of animals suffering from pneumonia. The injections produced no immediate or ulterior local reaction. There was also no immediate influence on the temperature, but the thermometric curve gradually became lower; the frequency of the pulse and respiration was diminished. Convalescence was rapid and no complications followed. Taken as a whole, the above series of experiments are satisfactory, and the serum therapeutics of pneumonia deserve further trial and investigation.—*Lancet.*

The Society of Alumni of Bellevue Hospital, New York, gave its fourth reunion dinner on Tuesday evening, February 12th, at the Hotel Brunswick. Dr. Charles C. Barrows, president of the association, acted as toastmaster. The following were the toasts and their respective respondents: "The Medical Board," by Professor William H. Thomson; "The Alumni," by Robert T. Morris; "Our Sister Societies," by Dr. William K. Simpson; "The Clergy," response by Rev. Roderick Terry, D.D.; "The Patient," by the Hon. J. H. V. Arnold, and "Woman," by Mr. Louis E. Bomeisler.

New Medical Law in West Virginia.—The State of West Virginia is apparently to have a new Medical Practice Act, the House bill for that purpose having been favorably reported by the Judiciary Committee of that body. The bill provides that the State Board of Health shall, at such times as a majority shall deem proper, hold examinations for the licensing of practitioners of medicine. The bill provides for both written and oral examinations, "covering all the essential branches of the sciences of medicine and surgery, and the examination shall be a thorough and decisive test of the knowledge and ability of the applicants." Should any applicant profess a desire to practise according to the "homœopathic" school, then the Board "shall call to their assistance a homœopathic physician duly licensed to practise medicine in this State."

Reviews and Notices.

TWENTIETH CENTURY PRACTICE. An International Encyclopædia of Modern Medical Science, by Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D. In twenty volumes, Vol. I., "Diseases of the Uropoietic System." New York: William Wood & Company. 1895.

THIS rather taking title is the designation under which is to be published what promises to be the most important medical work of this final quarter of the nineteenth century. From the announcement which we have received with the first volume of the series, we learn that the work will consist of twenty volumes, published at the rate of four each year, so that by the time of the appearance of the last volume the somewhat anticipatory title of the series will be justified. The list of contributors is a remarkably strong one, containing the names of many of the best-known authorities in every country of Europe and in America.

In the first volume, treating of diseases of the urinary system, there are five contributors, three Americans and two Englishmen. The first article, which is on Diseases of the Kidneys, is written by Dr. Francis Delafield, of this city. In it the author sets forth, in greater detail than in any other previous publication, his excellent classification of diseases of the kidneys. By the system which he has adopted it is surprising how the difficult subject of renal affections is simplified, and also how time is saved in their description. The present article is but a little over one hundred pages in length, yet the reader rises from its perusal with a clearer notion of the morbid changes in the kidney, commonly grouped under the term Bright's Disease, than he could get from many a treatise three and four times its length. The illustrations, of which there are twenty-six, are beautiful reproductions of micro-photographs of sections of the kidneys, showing the tubes and glomeruli in various stages of inflammation and atrophy. The second article, by Mr. Reginald Harrison, of London, is on the Diseases of the Ureters and the Surgical Affections of the Kidneys. The section on the ureters especially contains a record of much original work in this comparatively fresh field. The next article by the same author is on the Diseases of the Bladder. This treatise is necessarily surgical in character, yet, except in the section dealing with stone in the bladder, there seems to be little that would not interest the general practitioner as much as the surgeon. Two well-written and practical articles from the pen of Dr. G. F. Lydston, of Chicago, follow, taking up the consideration of Affections of the Prostate and of the Male Urethra. In the second article the author's views as to the nature of Urethritis are specially interesting. While recognizing the presence of the gonococcus, he does not seem to regard it as an indispensable factor in the causation of gonorrhœa, or at least of a urethritis indistinguishable in any essential particulars (symptoms, response to treatment, complications, or sequelæ) from the alleged specific form of the disease. Mr. E. Hurry Fenwick, of London, is the author of the next treatise, entitled Diseases of the Urine. This deals with certain morbid changes in the urine, and the diseases with which these changes are associated. Thus the symptom hæmaturia is considered in its relation to the inflammatory, tubercular, cancerous, and calculous diseases of the various portions of the urinary tract. The divisions of this article are hæmaturia, pyuria, accidental albuminuria, cystinuria, phosphaturia, oxaluria, polyuria, and chyluria.

The volume closes with a striking article on the Diseases of the Female Bladder and Urethra, by Dr. Howard A. Kelly, of Baltimore. The first thirty pages of this paper are taken up with a description of the author's method of cystoscopy in the female. The procedure is so rational in its conception, so practical in its results, and withal so easy of execution, that it seems strange it should not have been conceived of before. The method is described very clearly, and illustrated with numerous drawings and process reproductions of photographs. Finally, a very complete index renders all this mass of original work readily available.

The preceding description, brief as it necessarily is, will serve to give an idea of the individual articles, and we need say but a word concerning the volume as a whole. Owing to the systematic arrangement followed by the editor, we have here a procession, as it were, of the affections of the entire urinary tract, beginning with the kidneys and ending with the urethra. The only remaining disease, which might be classed among those of the urinary system, is diabetes mellitus, which we see from the recently issued prospectus is to lead off the second volume, apparently as a connecting link between diseases of the uropoietic system and those sometimes called nutritive, such as obesity, gout, and rheumatism. The illustrations of the volume are, as we have mentioned in speaking of the separate articles, beautifully executed and most instructive, and together with the clear type, excellent printing, and substantial binding, make a volume of which the publishers may well be proud. We shall await with interest the appearance of the succeeding volumes of this great work, which, if we may judge from the unequalled list of those who are to contribute the separate articles, is destined to be the authoritative treatise on the practice of medicine for many years to come.

DISEASES OF THE CHEST, THROAT, AND NASAL CAVITIES. Including Physical Diagnosis, and Diseases of the Lungs, Heart, and Aorta. Laryngology and Diseases of the Pharynx, Larynx, Nose, and Thyroid Gland and Œsophagus. By E. FLETCHER INGALS, A.M., M.D. Third Edition. Revised. Two hundred and forty illustrations. New York: William Wood & Company. 1894.

THIS most elaborate work is divided into thirty-seven chapters. Commencing with a detailed description of the most approved methods of physical diagnosis, the reader gradually finds himself advancing into percussion, auscultation, and physical diagnosis generally. Nothing has been omitted, while detailed descriptions, *e.g.*, of the plessigraph, make it appear how careful the author has been to describe accurately all the new and accessory aids to diagnosis.

In the chapter on tuberculosis the modern physician will readily recognize that most valuable aid to diagnosis, *i.e.*, tubercle bacilli. The illustration is very exact and perfect. In the chapters on cardiac diseases the sphygmograph receives proper consideration.

A very practical article is found on page 249, entitled "Tachycardia." On page 250 the article on "Bradycardia" is also very instructive.

Commencing with Chapter XVI., on the throat, we learn of methods of examination until we reach Chapter XVIII.; here the description of acute sore throat is quite novel. We do not remember seeing this diagnosis, plausible as it is, in any other work. Most interesting chapters on larynx and nasal disorders, and all details, medicinal and operative, are carefully discussed.

The illustrations are excellent; type clear; and the work deserves careful reading; for the physician looking for recipes this book will supply a great many. The author is to be complimented on the thorough and concise manner in which he handles every article.

A MANUAL OF THE PRACTICE OF MEDICINE. Prepared especially for students. By A. A. STEVENS, A.M., M.D. Third Edition. Revised. Illustrated. Philadelphia: Saunders, 925 Walnut Street. 1894.

THIS book, of about five hundred pages, is one of the most practical written. It is full of points on all modern methods of examination, giving microscopical and

chemical methods to date, besides numerous prescriptions which are always eagerly sought for by the young physician. The type is clear, and it well deserves the name of manual.

TRAVAUX D'ÉLECTROTHÉRAPIE GYNÉCOLOGIQUE. Archives semestrielles d'electrothérapie gynécologique, fondées et publiées par le DR. G. APOSTOLI. Vol. I., Fascicules I. and II. Paris: Société d'Éditions Scientifique. 1894.

THIS is an interesting collection of papers by the followers of Apostoli in different countries, bearing witness to the value of his method of treating various pelvic affections by electricity. With many of these the reader is already familiar, as they have appeared in the medical journals. America is well represented. The book will be read with much interest by those who desire to know what has been accomplished in gynecological electro-therapeutics during the past decade.

A CLINICAL MANUAL OF DISEASES OF THE EYE, INCLUDING A SKETCH OF ITS ANATOMY. By DR. B. ST. JOHN ROOSA, M.D., LL.D. Illustrated by one hundred and seventy-eight Engravings and two Chromo-lithographic Plates. Large octavo, pp. 617. New York: William Wood & Company. 1894.

THIS new manual of diseases of the eye is divided into four parts, classified as follows: Part I., "A Sketch of the Anatomy and Physiology of the Various Parts of the Eye and its Appendages," 114 pages; Part II., "The Relative Frequency of Different Diseases of the Eye, Methods of Examination, Therapeutics, and Surgery of the Eye," 110 pages; Part III., "Diseases of the Eyelids, the Lachrymal Apparatus, the Conjunctiva, Eyeball, and Orbit," 204 pages; Part IV., "Conditions of the Eye Requiring the Use of Glasses, Errors of Refraction and Accommodation, Strabismus, Affections of the Ocular Muscles," 143 pages. An ample glossary and index complete the work.

The author, in presenting this work, invites an impartial hearing to his views on hyperopia and asthenopia, found in detail in the fourth part of the work; and the history of the developments of this later addition to the literature of ophthalmology is an elaboration of the author's sound views, founded on Donder's theory of asthenopia published about fifty years ago.

In view of the prolific output of text-books on diseases of the eye in the English language, within the last decade, the author vindicates his efforts to present the results of a long professional experience by a desire to satisfy a debt which, as teacher and clinician, he owes the medical profession. A critical perusal of the terse and practical embodiment of the author's experience justifies him in the position taken. The fourth part must be regarded as the *pièce de résistance* of the book. It is as true of ophthalmology as of geology, that, in certain departments, it is well-nigh impossible to write anything new or original.

Under the topic of the ophthalmoscopic appearances of the retina, it is refreshing to read the confirmation of Loring's theory of the light streak on the arteries and veins of the retina. Loring's theory was that it was due to refraction of rays of light passing through the blood-column of the vessel, striking the underlying tissue, and reflected back through the vessel and blood-column into the eye of the observer. The theory was not concurred in by Donders, Jaeger, Schneller, and others, because Loring used a carmine solution instead of a column of warm blood. Later experiments have verified Loring's position, and it may be regarded as established that, the white light streak accompanying the healthy retinal vessels is due, not to a reflection of light from the height of the vessel, but rather to a refraction of light-rays passing in and out of the vessels themselves.

Under the topic of anatomy of the optic nerves, there is an admirable and concise description of the whole course of the optic tracts, accompanied by Fuchs's schematic diagram, so that any student may familiarize himself with the clinical conditions of hemianopsia, both homonymous and temporal or nasal.

Scarcely eight pages are devoted to the study of the general physiology of vision—an ideal and romantic chapter to the student of physiological optics. The innervation of the iris-sphincter, the play of the equatorial and meridional fibres of Bowmann's muscle of accommodation, the application of the wave theory of light-sensation to the layer of nerve-cells, and to the rods and cones of the retina, have too little space. They may be trite to the connoisseur, but are always fresh food for accurate instruction to those who employ text-books.

The reader will profit by the careful explanation of the visual tests, as shown by letters, figures, and characters. The history of the development of the ophthalmoscope, first introduced in this country in 1854 by E. Williams, of Cincinnati, is given in interesting detail. To the quoted report of Helmholtz's public lecture in 1893 on the invention of the ophthalmoscope, in which credit is given by Professor Helmholtz to Dr. William Cuming, in 1846, and later to Professor Boricke for the assertion and proof that the interior of the eye of mammals and man could be made luminous by reflected light, may here be added the statement made by Helmholtz to the reviewer, that he was led to a practical solution of the definite exhibition of the interior of the eye by the importunate demands of Graefe for an instrument that would enable him to see the details of the fundus in the hitherto unnamed and unexplained diseases of the choroid, retina, and optic nerve.

The surgical chapters are well written and amply illustrated. On pages 410 and 411 are shown eighteen different sections for the extraction of cataract, which are most interesting to the operator and historian. In a few words, it may be said that the trend of ophthalmic surgeons to-day is away from Graefe's linear and modified linear incisions to the distinctly corneal flaps of Stellway and Welker. The author no longer performs extraction of the lens in its capsule in all cases, because he finds the pupillary field is not as free from membrane lens matter as it should be.

Part IV., on refraction, should be read with care. The dependence of asthenopia upon hyperopia to a large extent, as first noticed by Donders fifty years ago, forms the index of the author's argument.

The practical advances made in the study of eye-strain, neurotic asthenopia, ocular reflexes, etc., are entered upon with much detail, illustrated by frequent examples in private and hospital practice. What better and shorter or clearer definition could be given than that contained in these few words: "Spasm of accommodation is excessive tension of the ciliary muscle"?

In connection with this subject of asthenopia is the elaborate work of Dr. A. B. Deynard, who examined the eyes of one hundred persons not suffering from asthenopia, with reference to the existence of corneal astigmatism. He found that astigmatism was a more important element than hyperopia in the causation of asthenopia, and concludes that hyperopic astigmatism, or simple hyperopia, or both combined, are at the bottom of most cases of true asthenopia. These persons never had had asthenopia, and could not be expected to suffer from its well-known symptoms. But they had corneal astigmatism and hyperopia in low degree; none were myopic. The examinations were made with Javol's ophthalmometer, and went to establish the rule that unless corneal astigmatism exceed 0.50 of a diopter, it need not be corrected; also that quite an amount of hyperopia may exist without symptoms of asthenopia. The tables cover eleven pages, and are of great interest in clearing up much that has been uncertain and irrelevant in asthenopia depending on hyperopia; and they go far to confirm the truth of Donder's form-

ula of fifty years ago. To the student of advanced ophthalmology they form the most interesting feature of the book.

In closing this review references must be made to the happy absence of a large array of figures for purposes of illustration, and of a multitude of quotations of disputed and disputable value. If Dr. Roosa has added to ophthalmology it has been on the lines above noted, and by his clear, authoritative style of teaching. Author and publisher are to be congratulated on the text and illustrations.

LOCAL ANÆSTHETICS AND COCAINE ANALGESIA. Their Uses and Limitations. By THOMAS H. MANLEY, A.M., M.D., New York. Member of New York Academy of Medicine, New York Pathological Society, the American Medical Association, the New York State and County Associations, Visiting Surgeon to Harlem Hospital, etc. St. Louis: J. H. Chambers & Co. 1894.

THE monograph here presented seeks to fill the hiatus in surgical literature bearing upon the uses of cocaine and the methods by which it can best be employed. Thermal agents in the reduction of pain-sense are also considered.

There are many slight typographical errors which have been overlooked in the proof-reading. These might be passed by without comment, were it not that the peculiar construction of some sentences and ungrammatical use of words indicate a lack of care in the preparation of the work which seems scarcely justifiable in a medical author of the present day. Many useful facts and hints are given in the work to guide one in the employment of local anæsthesia.

HAHNEMANN'S THERAPEUTIC HINTS. Collected and arranged by R. E. Dudgeon, M.D. London: E. Gould & Son, 59 Moorgate Street, E. C. 1894.

THIS little book is designed by its author as an aid in the selection of the appropriate remedy. There is first a list of abbreviations, and then under anatomical or physiological headings the abbreviation indicates the drug, but not the dose.

TRANSACTIONS OF THE COLORADO STATE MEDICAL SOCIETY. Twenty-fourth annual convention. By-laws and list of members. Denver, June, 1894.

THIS is a bound volume of nearly five hundred pages, reflecting much credit upon the Society, and containing numerous papers and articles of interest and importance. A paper on tuberculosis among the Indians and others relating to phthisis are found among them.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF GEORGIA. Forty-fifth annual session, 1894. Atlanta, Ga.

CONTAINS an address by the president, Dr. Elliott, and various papers upon medical and surgical subjects. It is neatly gotten up and bound.

COLUMBIA COLLEGE IN THE CITY OF NEW YORK. Fifth annual report of President Low to the trustees, October 1, 1894.

ALL the schools are included in the report, but that of the School of Medicine most concerns our readers. The report of Dean McLane makes a very favorable showing.

HIGHER MEDICAL EDUCATION. The true interest of the public and of the profession. Two addresses delivered before the Medical Department of the University of Pennsylvania, on October 1, 1877, and October 2, 1893. By WILLIAM PEPPER, M.D., LL.D. Philadelphia: J. B. Lippincott Company. 1894.

THE high plane to which the teaching at Pennsylvania University has reached is now known the world over. Dr. Pepper's book deals with problems connected with the greater advancement of medical instruction. The results of the establishment of a four years' course at the university are given, and this alone must prove of great interest to teachers of medicine everywhere.

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES. The proceedings of the fourth annual meeting, held at Washington, D. C., May 1, 2, and 3, 1894. St. Louis: Buxton & Skinner.

THE present is the most pretentious volume ever issued by the Association, containing 816 pages and an index. It is freely illustrated, and many of the pictures, besides being instructive, are attractive in an artistic sense. The work is well printed and fairly well bound, and to those interested in questions of military surgery it is worth the price of four dollars at which it is sold to non-members. It seems a pity that so good a work should be defaced by the advertisement of a proprietary remedy opposite its title-page.

DISSECTIONS ILLUSTRATED. By C. GORDON BRODIE, F.R.C.S., late Senior Demonstrator of Anatomy in Middlesex Hospital Medical School. Part III., Head, Neck, and Thorax. Royal 8vo, pp. 114. London and New York: Macmillan & Co.

THE third of these excellent series of vari-colored anatomical plates, containing illustrations of dissections of the head, neck, and thorax, five of which plates are of full size, the rest two-thirds natural size. They are accurately drawn from actual dissections of the author, by Mr. Percy Highley, and comprise views of the different planes and surfaces of the neck, thorax, and head, bringing out the topographical anatomy of the different important organs in striking relief.

TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY. Thirteenth annual meeting, 1894.

THIS pamphlet contains the detailed proceedings of the meeting in Washington in 1894. The material, in variety and intrinsic work, compares very favorably with that of previous volumes.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Vol. XII.

THIS volume, although somewhat below the average size, contains the usual number of interesting articles, among which may be mentioned those by Keen on "Amputation of the Shoulder;" "Surgery of the Kidney," by Tiffany; "Surgery of the Ureter," by Fouger; and "Extirpation of the Larynx," by Carmalt.

MANUAL OF PRACTICAL MORBID ANATOMY. By H. D. ROLLESTON, M.A., M.D., F.R.C.P., Fellow of St. John's College, Cambridge, and A. A. Kanthack, M.D., M.R.C.P.; Lecturer on Pathology in St. Bartholomew's Hospital. 12mo, pp. 240. London and New York: Macmillan & Co.

THIS is intended as a practical handbook for the post-mortem room, and contains all that is necessary as a groundwork for the study of the gross pathological changes in the different organs of the body, with the necessary and special directions for their easy demonstration and intelligent study. It is well and systematically arranged, and is full of those practical suggestions so much needed by the hospital interne and, in fact, every practitioner who desires to conduct an autopsy skilfully and intelligently.

HELPS IN SICKNESS AND HEALTH. By HENRY C. BURDETT, author of "Hospitals and Asylums of the World." 12mo, pp. 484. London: Scientific Press. 1894.

THIS work is a *multum in parvo* of hygienic directions and touching every practical point regarding the individual and his surroundings, from the nursery to the grave. The nursery, the school-room, the care of the person, food, and drink; work and rest; the domicile,

its care, structure, and situation; simple ailments and emergencies, and sick-room cookery, all receive an intelligent and masterful treatment from the standpoint of the thoroughly practical and common-sense study of an experienced sanitarian. It is of particular value to the housewife, and to such as live in distant places, out of the reach of immediate help in times of emergency.

A Manual of Modern Surgery; General and Operative. By James Chalmers Da Costa, M.D., Demonstrator of Surgery in Jefferson Medical College. 12mo, pp. 806. Philadelphia: W. B. Saunders. 1894.

This work, as its preface states, is intended to present in clear terms and in concise form the fundamental principles, the chief operations, and the accepted methods of modern surgery. It thus stands between the concentrated compend and the larger text-book. The author has quite successfully carried out these aims, and gives the student and practitioner a first-class work of its kind. He has the happy faculty of condensing general principles into salient facts, and stating in a positively direct way the latest and best rules of practice. In these respects the manual is destined to be of great value to the student whose object is to lay a broad and sure foundation for future work in the surgical line. The illustrations are numerous and to the point.

The Vaccination Question. By Arthur Wallaston Hutton, M.A., formerly Scholar of Exeter College, Oxford, etc. Pp. 128. London: Methuen & Co. 1894.

This little book, having as a frontispiece an illustration of Monteverde's statue of Edward Jenner vaccinating his son, takes the form of a letter addressed by permission to the Principal Secretary of State for the Home Department. The argument has for its scientific basis the observations of Creighton and Crookshank as to the identity of cow-pox with syphilis, and in addition considers at length the various statistics of deaths from small-pox, vaccination, and inoculation. Although nothing of much novelty is presented, the book is written in a style far more temperate than one expects to find in the productions of the "antis." As the best presentation of the other side of the question we commend it to our readers, without, however, expecting that they will find its arguments convincing.

Transactions of the Clinical Society of London. Vol. XXVII., pp. 319. London: Longmans, Green & Co. 1894.

This volume presents many valuable papers upon various subjects, surgical as well as medical. Although there is but little of novelty to be found, many of the contributions contain suggestions which are well worth the attention of the progressive practitioner.

Transactions of the Michigan State Medical Society. Vol. XVIII., pp. 589. Detroit. 1894.

We regard this volume as one which would be creditable to any State society, even if older in years. The discussion upon Tuberculosis is particularly valuable. The papers of Vaughan, Gibbes, Shurly, Novy, and Manton are of especial interest.

Difficult Labor. A Guide to its Management for Students and Practitioners. By G. Ernest Herman, M.B., London, F.R.C.P.; Senior Obstetric Physician to the London Hospital; Physician to the General Lying-in Hospital; President of the Obstetrical Society of London; Examiner in Midwifery to the Royal College of Surgeons; Late Physician to the Royal Maternity Charity. 8vo, pp. 442. New York: William Wood & Co. 1894.

This attractive little volume is written in a concise, business-like way that renders it of considerable practical value. While we cannot approve all of the author's dogmatic statements, we find much to commend. The title is somewhat misleading, as will be evident from a glance at the table of contents, which includes chapters on Rupture of the Uterus and Hemorrhage Before and After Delivery. The keynote is the early recognition and prompt treatment of abnormalities, which is also the central idea in a recent American work on obstetric surgery.

The initial chapter, on the important subject of occipito-posterior positions, is somewhat disappointing, since little is said about those cases of non-rotation in which the reader most needs advice. The rotation of the child by external manipulation is described as "quite easy." We doubt if this will be the experience of even expert obstetricians. Nothing is said about internal rotation or version.

The directions as to the management of breech-presentation differ from those usually given in this country. The author disapproves strongly of the application of forceps to the breech, but is a firm advocate of their use in cases of arrest of the after-coming head by the imperfectly dilated cervix.

Pelvimetry is thoroughly treated, over a hundred pages being devoted to pelvic deformities. We find a brief reference to immediate trachelorrhaphy, an operation with which the author seems to have had but slight personal experience.

In chapter XXV., on the Forceps, we note an extended reference to the "pendulum movement," which is spoken of as "advantageous" (!) The English method of applying them, with the patient on his left side, is the only one described. Dührssen's work (both his multiple incision and intra-uterine tamponade) is damned with faint praise. Figs. 154 and 155, representing the introduction of the uterine sutures in Cæsarean section, are manifestly incorrect, and the description of the operation is hardly in accord with modern aseptic technique.

The short chapter on symphysiotomy is written in a perfunctory way which shows that the author does not share in our enthusiasm over the operation. Fig. 159 is surely not intended for Galbiati's knife!

As we stated before, there is much to commend in the book, and barring a disposition on the part of the author to approve of his own methods only (and those of Barnes), it is terse and practical. Condensation, by the omission of the irrelevant chapters to which we have referred, would add to its scientific value, but even in its present form we commend it to students and practitioners.

A State Medical College for Illinois.—The board of regents of the University of Illinois, located at Champaign, have about concluded negotiations with Dr. W. E. Quine, president of the College of Physicians and Surgeons, Chicago, and its board of trustees, for the purchase of that institution with the view of making it the medical department of the State University. According to Chicago daily papers negotiations have gone so far as to amount to an agreement, all that is yet necessary being an appropriation of about two hundred thousand dollars by the Legislature for the purchase of the college properties, and so confident are the college authorities that this purchase will be consummated that they have already indulged in a banquet over the to them fortunate event. The homœopathists are fighting this scheme because it will give official recognition to regular medicine. They argue, not that it will be injurious to the public good to have a large and well-endowed medical college, but that it will hurt homœopathy.

A License Law for Chiropodists.—In a paper recently read before the New York State Pedicure Society, Mr. C. S. Levy advocated the adoption of a law regulating the practice of chiropody. The suggestion was adopted by the Society, and it was unanimously voted to urge upon the Legislature the passage of a registration law.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Eighty-ninth Annual Meeting, held at Albany, February 5, 6, and 7, 1895.

GEORGE HENRY FOX, M.D., PRESIDENT, IN THE CHAIR.

THIRD DAY, THURSDAY, FEBRUARY 7TH.

Nominations.—The report of the Committee on Nominations was read by DR. E. F. BRUSH. For *President*, Dr. Roswell Park, of Erie; *Vice-President*, Dr. William Maddren, of Brooklyn: *Secretary*, Dr. F. C. Curtis; *Treasurer*, Dr. Charles H. Porter. *Committee of Arrangements*, Drs. W. J. Nellis, William Hailes, Jr., W. J. Morton; *Committee on By-laws*, Drs. H. D. Wey, A. R. Simmons, F. C. Curtis; *Committee on Hygiene*, Drs. Lewis Balch, L. S. Pilcher, D. S. Burr, Z. T. Emory, E. Stoddard, O. W. Peck, Lucien Howe; *Committee on Legislation*, Drs. Seneca D. Powell, Morris J. Lewi, A. W. Suiter; *Committee on Ethics*, Drs. John S. Warren, Charles Jewett, Eugene Beach; *On Prize Essays*, Drs. A. Jacobi, Henry Hun, W. S. Cheesman; *On Publication*, Drs. F. C. Curtis, W. W. Potter, F. D. Bailey, C. H. Porter; *Honorary Member*, Dr. George H. Rhoe, of Maryland.

The committee reported against change of place of meeting, but in favor of the last Tuesday in January as the time. The report was adopted.

THE PRESIDENT appointed Dr. R. A. Witthaus, of New York, to confer with a committee of the State Bar Association regarding abolition of the coroner system.

Clinical Notes on Psoriasis, with Especial Reference to its Prognosis and Treatment.—DR. L. DUNCAN BULKLEY based this paper on three hundred and sixty-six cases of psoriasis seen in private practice. It occurred a little oftener in males than in females, at all ages, chiefly from fifteen to thirty years of age. The disease was essentially chronic, in the cases mentioned having existed five to ten years before the patients consulted him. In one instance it had existed thirty years. The point emphasized was that psoriasis was not a local disease, but depended upon a general condition which produced the eruption again and again. It was closely associated with gout and faulty metabolism. It was benefited by alkaline remedies, counteracting acidity of the blood and urine. Local treatment was only of secondary importance. Psoriasis could and should be cured just as gout, chronic bronchitis, etc., could be cured.

Notes on a Case Illustrating the Treatment of Eczema Capitis by Salicylate of Soda.—DR. C. E. LOCKWOOD, of New York, related a case of eczema of the scalp in a man of rheumatic tendency, the rheumatism disappearing with the appearance of the eruption. This had continued four years when he saw the patient and instituted treatment which included the administration of salicylic acid. The scalp eruption thereupon disappeared. He hoped others would try salicylic acid in cases of eczema in patients with rheumatic history.

In corresponding with Haig on the subject, this gentleman had expressed great interest in the case, and said he would certainly try the salicylic acid treatment in future in rheumatic cases of eczema.

DR. L. D. BULKLEY was glad to hear Dr. Lockwood's paper, as it was practically in line with his own, calling attention to the necessity of treating the patient's general condition rather than the local eruption in certain skin diseases. He had used salicylic acid for years in eczema in cases of rheumatic diathesis, and had written upon it and the use of water as a diluent, and the necessity for eating sparingly of meats, many years ago.

DR. ELSNER said there was a mistaken notion in the profession that, in rheumatism and so-called uric acid diathesis, the trouble was due to excess of uric acid, whereas it was not an excess but retention of uric acid. He believed Haig had been working at the question of uric acid for years, his recent work simply being a review, as it were, of his former writings. Dr. Elsner did not approve of cutting off all meat diet. The point was to see that metabolism went on perfectly, and where it did not the trouble might lie in a cup of coffee, or other like things, instead of in meat and foods which were wholesome for most people.

DR. WILLIAM MADDREN, of Brooklyn, impressed the importance by way of prevention of using water for washing out the system.

DR. BULKLEY explained that he did not cut off all meat in all cases, but he had found an excess at fault in many instances. His paper, he said, was written twenty years ago.

Blood Examinations Regarding the Malarial Origin of Zoster.—DR. JAMES MACFARLAND WINFIELD, of Brooklyn, showed by quotations in the first part of this paper that the etiology of zoster was not at all settled. A nervous influence had often been remarked upon, but the direct cause of the nervous and eruptive phenomena had remained unknown. The occurrence of the disease in patients living in malarial districts had led him to examine the blood for the malarial parasite in seven cases coming under his observation. In three there was unmistakable evidence of malarial poisoning, as demonstrated by the plasmodium malariæ. In another this test had been rendered nugatory by the previous administration of quinine. In some of the others it was probable the malarial parasite would have been shown, had proper examination been made. With this evidence the author thought it could be asserted that malaria might, and did, produce herpes zoster.

DR. H. J. MORTON, of Brooklyn, discussed the paper. He said the occurrence of pain along the nerve preceding the eruption, showed that the nerve was primarily affected. But what was the exciting cause of this inflammation around the nerve? It seemed highly probable that it was a toxic influence in the blood itself. It was known that the poisons of alcohol, syphilis, malaria, etc., often attacked the peripheral nerves. The persistent neuralgias of malarial origin indicated a tendency for the malarial poison to affect particular nerves, and the evidence given in the paper made it probable that the eruption of zoster was due to the same cause.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, December 24, 1894.

EGBERT H. GRANDIN, M.D., PRESIDENT, IN THE CHAIR.

Diseases and Disorders of the Stomach.—Papers upon different divisions of this general subject were read as follows: Dr. Morris Manges, on the "Value of Modern Methods of Diagnosis;" Dr. A. Jacobi, "Medicinal Treatment;" Dr. F. Kammerer, "Modern Surgical Treatment." These papers have already appeared in the MEDICAL RECORD.

Modern Dietetic Treatment.—DR. GEORGE B. FOWLER made some verbal remarks upon this division. He thought he was in agreement with Dr. Manges when he expressed the opinion that modern methods, based upon the use of the stomach-tube, were of limited usefulness. Our patients would not subject themselves to the manipulations essential to elaborate chemical and physical tests. Therefore we had to fall back on diet. The stomach not being the only digestive organ, made the subject more complicated than might be inferred from some modern writings. Dr. Fowler expressed

great admiration for the patience and intelligence displayed by Dr. Beaumont in his study of the process of digestion in the case of Alex. St. Martin, published about 1838. His observations still formed a valuable basis for the dietetic treatment of disorders of the stomach.

The speaker said he was convinced that it was an error to suppose the saliva took an unimportant part in the process of digestion, especially in the conversion of starch. The first step toward correcting indigestion was to thoroughly masticate and salivate the food. When a patient complained, he first ascertained whether any particular articles were known to disagree with him, and these were excluded from his diet. If none, he at once placed him upon a restricted régime, for he could never forget that man, like the lower animals, was originally limited to a few simple articles of diet. Cooks paid more attention to their art than to their science. In view of the immense variety of articles swallowed at one meal, could it be astonishing that there should be so much gastric trouble?

To begin with, Dr. Fowler placed the patient upon a monotonous diet by first excluding fermentative foods—the carbohydrates and fats. He had observed that in New York City turkey and chicken caused more indigestion than almost any other article of food, and these were excluded. He also cut off rich soups, pork, hashes, gravies, pies, ice-cream, malt liquors, champagne, and claret. Claret was the best precipitate for pepsin which could be placed in a laboratory. Raw, not cooked, oysters were allowed; in some instances raw clams. He felt his way with regard to fish, and was very particular about cheese. He allowed beef steak, mutton chops, chopped meat, possibly ham, green vegetables, celery, asparagus without flour gravy, bread sparingly.

Dr. Fowler said he was a thorough believer in washing out the stomach when necessary, but usually the stomach-tube was too violent, and drinking hot water would answer the purpose. He was particular to have his patients drink an excess of ordinary water. If they did not improve under such restrictions, he still further reduced the diet, cutting off those found to disagree. He had achieved some remarkable results in children and old people by boiling farina all day or longer, straining through a fine sieve, keeping on ice, putting some into a glass of milk when used, sometimes adding beef essence.

Dr. Max Einhorn did not believe in using the stomach-tube for diagnosis of all cases of gastric trouble, but in chronic cases it was usually essential, excluding those in which its use might be attended by danger. Combine with chemical analysis physical examination and the history, and one had pretty reliable means of diagnosis. He thought physicians were often too strict in dietetic treatment. He believed in some variety of food. The danger of allowing the patient too little food to live upon was greater than that of allowing too much. Of course, articles should be excluded which were known to disagree. He was also opposed to exclusion of starchy food. The idea of fermentation had been exaggerated. It was only where there was an obstacle to their passage through the pylorus that starchy foods fermented in the stomach, and in that event albuminous foods would also undergo fermentation. If the patient were placed on a one-sided diet, it should only be for a limited time, a week or two at most. Regarding nitrate of silver in ulcer of the stomach, Dr. Einhorn thought a solution could be sprayed as in disease of the throat, by use of the tube introduced to the cardiac end. He did not know why Dr. Jacobi should be opposed to carbonate of soda. He had found benefit from it, especially where there was too much acid in the stomach. Methylin blue had proved beneficial in some cases of cancer under his care.

A Rough and Ready Method of Diagnosis.—Dr. Simon Baruch said he had adopted a rough and ready method of diagnosis between gastric neuroses, gastric catarrh, and other stomach troubles. When a patient came to him with chronic gastric trouble, he directed him to eat a hearty meal, including all things which Dr. Fowler had excluded. After a proper interval he washed out the stomach and learned what articles had not been digested, and these were excluded thereafter from the diet. In gastric neurosis all articles might be fully digested, as in one case related. He cleansed the stomach every day or two as long as might be necessary, and in many instances found the Saulsbury meat diet and hot water beneficial.

Nitrate of Silver for Gastric Ulcer.—Dr. Andrew H. Smith suggested that in giving nitrate of silver for gastric ulcer, whose action depended upon contact with the seat of disease, the patient lie on the back and right side, for the ulcer in most cases was situated in the posterior wall. In anæmia from gastric troubles he gave rectal enemata of defibrinated blood, etc.

Dr. Illoway thought the stomach-tube should be employed in diagnosis in all cases in which the symptoms pointed to disease of the stomach. Without a knowledge of the motility and chemical activity of the stomach we could not distinguish between neurotic or hysterical conditions and disorders due to lesions.

Obscene Medical Literature.—Dr. A. Jacobi offered the resolution passed at the meeting of the Academy of Medicine, December 20th, endorsing a proposed bill to compel the payment of letter postage and use of sealed envelopes for transmission of medical pamphlets and circulars the contents of which were not appropriate for public reading.

The Index Medicus.—Dr. Manges offered a resolution, recommending that the Government accept this publication in connection with the library of the Surgeon-General's office. It was stated that the Government could not do this, but since the information was not positive the resolution was adopted. Dr. Jacobi suggested that this did not prohibit members from subscribing for the publication meanwhile, in order to keep it from suspending.

Therapeutic Hints.

Cauterization of the Nares.—It is important that antiseptic applications be regularly employed after cauterization of the nasal mucous membrane; and that the nostril be closed by cotton for several days whenever the patient is out of doors, to prevent taking cold.—Ingals.

After the Delivery of the Placenta.—

℞. Fl. ext. ergotæ,
Fl. ext. hydrastis canadensis.....āā 15 gm.
Fl. ext. hamamelis virginicæ.....q. s. ad 60 gm.
M. Sig.: Teaspoonful three times a day.

—Stuver.

Emasculation of Criminals.—The surgical unsexing of all criminals convicted of offences that indicate constitutional depravities that are transmissible by heredity is both expedient and practicable.—Boal.

Lung Gymnastics.—Properly conducted lung exercise will aid digestion, increase the desire for food, improve nutrition, increase the weight, add to the vital force, and lengthen life.—Walbridge.

Cardiac Adynamia after or during febrile complaints, or in collapse, hypodermic injection of three grains of caffein citrate.—Sevestre.

Turpentine in Diphtheria.—It must be given in frequent large doses and persisted in as long as there is any chance whatever. A child two years of age will take a teaspoonful every two hours without exhibiting any untoward symptoms whatever. I have given it

in nineteen cases and have had eleven recoveries.—KELLOGG.

Pertussis.—Bromoform, one drop for each year of life, four times a day.—PELICER.

Chronic Rheumatism.—Tincture of colchicum ten drops, one hour before dinner for eight days, then none for a week.—SIMON.

Hæmophilia.—Glycerin extract of the red marrow from the heads of long bones of calves.—MANN.

Eczema.—

℞. Iron peroxide..... ..... gr. ½
Bism. subnit.,
Zinc oxid.....āā gr. xv.
Glycerin..... ʒ ss.
Rose water..... ʒ ix.

—HERRKEIMER.

Cerebral Syphilis.—

℞. Metallic mercury..... 20 gm. (ʒ v.)
Lanoline..... 5 gm. (ʒ jss.)
Liquid vaseline..... 35 gm. (ʒ j. 1-4.)
Inject subcutaneously from five to seven centigrammes (gr. ½). Repeat every fifteen days.

—SACAZE.

Cancer of Stomach.—Potassium chlorate one to four drachms daily.—BRISSAUD.

Dysmenorrhœa.—

℞. Fl. ext. viburnum prunifolium,
Fl. ext. Jamaica dogwood..... āā 2 gm.
Syrup..... 50 gm.
Water..... 140 gm.
Dessertspoonful every two hours.

—COCQ.

Deodorizer in Cancer of Uterus.—

℞. Acid salic..... gr. vj.
Sod. salicylat..... ʒ iij.
Tr. eucalyp..... ʒ vj.
Aq. dest..... ℥ vj.
Three tablespoonfuls to a pint of water as an injection.

Alopecia Areata.—

℞. Chrysarobin..... 30 gm.
Colophon..... 5 gm.
Cer. flav..... 35 gm.
Ol. oliv..... 30 gm.
M. F. Stilus unguinosus.
To apply at night and wash off with oil in morning. A night-cap should be worn.

—LEISTIKOW.

Impotency from Excess.—

℞. Ext. damianæ fluid..... ℥ j.
Ext. canthar fluid..... ♏ viij.
S. : Teaspoonful at bedtime.

Nervous Dyspepsia.—

℞. Sodii brom..... ℥ j.
Pepsin sacch.
Pulv. carbo. veg.....āā ʒ iij.
Aquæ..... ℥ iv.
S. : Teaspoonful after each meal.

Pulmonary Tuberculosis.—

℞. Ichthyol,
Aq. destil.....āā ʒ v.
S. : Four drops thrice daily, gradually increased to forty.

—COHN.

Diphtheria.—Sublimation of twenty to forty grains of calomel, according to age of patient, every one, two, or three hours.—WAXHAM.

Valerianate of Amyl.—In 2½-grain capsules every half hour up to five or six doses it is valuable for restraining the pain of nephritic colic and relieving the cystitis, though it has no influence on the calculus.—BLANC.

Summer Diarrhœa.—

℞. Benzonaphthol,
Bismuth salic.....āā gr. ij.
Dover's powder..... gr. ss.
To child of two years.

—SOLIS-COHEN.

Eclampsia of Pregnancy.—Hypodermic of morphia followed with five or ten minims of tincture of veratum viride by same method.—PAGE.

Dysentery in Children.—

℞. Muriate cocaine..... .05
Ergotine..... .50 (gr. viiss.)
Extr. opium..... .10 (gr. iss.)
Aristol..... .25 (gr. iv.)
Cacao butter, q. s.
For ten suppositories. Introduce one every two or three hours.

—ADAMS.

Rickets.—

℞. Phosphorus..... gr. 1/33.
Saccharin..... gr. lxxvij.
Essence lemon..... ♏ ij.
Cod-liver oil..... ℥ iiiss.
Dose ʒ j.

—GUINON.

Psoriasis of Scalp.—

℞. Hydrarg. ammoniat..... ..... ʒ j.
Sapo. mollis..... ʒ iij.
Vaseline..... ℥ j.

—FEIBES.

Constipation in Infants.—Abdominal massage from three to ten minutes produces as good results as purgatives.—KARNITZKY.

Acute Otitis.—

℞. Ichthyol..... ..... ʒ ss.
Glycerin,
Distilled water.....āā ℥ ss.
A few drops in ear three times daily.

—SOLT.

Whooping-cough.—

℞. Powdered belladonna-root..... gr. ⅛.
Dover's powder..... ... gr. ss.
Sublimed sulphur..... gr. viij.
White sugar..... gr. viij.
M. Sig.: For one dose from two to ten times daily, according to the age of the patient and the effect produced.

—SÉE.

Ovaritis.—

℞. Sulphate of soda..... ʒ iv.
Sulphur..... ʒ j.
Sugar..... ʒ v.
Essence of peppermint..... q. s.
S. Teaspoonful at bedtime in a glass of water.

—WINTERNITZ.

Coryza.—Draw up into the nostril from the palm the juice of a ripe lemon.

Neuralgia.—

℞. Exalgin..... gr. j.-ij.
Spt. chloroformi..... ♏ x.
Aquæ.....ad ℥ j.
One dose every four hours.

—YOUNGER.

Uterine Fibroma.—Monopolar positive electrolysis is palliative in ninety per cent., and diminishes pain in fifty per cent., but only decreases size of tumor in ten per cent. of cases.—BERGONIE.

Pyrogallic Acid is one of the best applications for psoriasis, but the danger of hæmoglobinæmia makes great care necessary.—NEISSER.

Morphomania.—Brusque suppression of the drug, giving a hypodermic only in case of syncope, strong coffee four times daily, the heart strength being kept up with sparteine two grains, and caffeine ten grains, daily.—VOISIN.

Antiseptic Lavage of the Stomach.—

℞. Sodæ biboratæ..... ʒ ij.
Creolini..... gr. iv.
Acid. salicylici..... gr. xviij.
Thymolis..... gr. iv.
M. Use with a syphon tube after clear water lavage once a day.

—ROSENHEIM.

Malaria.—Salicinum is a safe and reliable antipyretic, especially in these attacks which exhibit so-

called rheumatic symptoms; it is a perfect substitute for salicylate of soda without any of its dangerous properties.—FORBES.

Djamboe Leaves from the tree whose fruit gives us guava jelly, made into a 5 to 80 infusion or fluid extract, acts as a styptic and stomachic, checking diarrhœa after the third or fourth teaspoonful.—HERGEL.

Appendicitis.—I am frequently called to cases of supposed appendicitis which are really nothing more than instances of acute enterocolitis. Many acute diseases will cause tenderness in the vicinity of the appendix; I have seen this in la grippe. My experience has been that the opium treatment has usually proved harmful.—LESSER.

Diphtheritic Angina.—Potassium permanganate, 1 to 200, applied every two to four hours.—CATRIN.

Trional appears to act particularly well in the cases of insomnia where most other drugs refuse to produce any effect. In primary insomnia, and in the sleeplessness of lunatic and alcoholic patients, it seldom fails. It is spoken of most highly by Collatz in cases of sleeplessness in patients suffering from serious cardiac disease.—BAKOFEN.

Strophanthus, like digitalis, appears to be sometimes of value in cases of alcoholism, creating a dislike for drink which may become permanent.—SKWORZOW.

Consumption.—Theoretically, there is much to fear from the effort necessary to obtain sufficient oxygen in high altitudes, especially in patients who have had hemorrhages. Practically this fear has been proved to be quite baseless, except in those whose disease has advanced so far that there is not enough available air-space left in the lungs for free respiration at any altitude. Altitudes of less than eight thousand feet are only exceptionally dangerous for hemorrhagic cases.—MUNN.

SOME USEFUL PRESCRIPTIONS.

BY GUY C. M. GODFREY, M.D.,

FIRST LIEUTENANT AND ASSISTANT SURGEON IN THE MEDICAL DEPARTMENT, U. S. ARMY; POST SURGEON, FORT WASHAKIE, WYO.

IN my experience in general practice I have found several prescriptions to be especially useful, necessity being the cause of invention. The following is very good for wind colic of infants, and I have used it with excellent results:

℞. Extracti zingiberis fluidi..... c.c. 6 (℥ jss.).
Tincturæ asafœtidæ..... c.c. 12 (℥ iij.).
Aquæ menthæ piperitæ,
Aquæ cinnamomi.....āā c.c. 30 (℥ j.).
Syrupi simplicis q. s. ad..... c.c. 120 (℥ iv.).
M. Sig.: ℥ j. (c.c. 4) t.i.d. in water before meals.

Of course, the practitioner will change the quantities and ingredients to suit each case. It is very hard for an infant to take, but its potency is well illustrated in the following case:

The patient, aged fifteen months, was of good family history with one exception. Her father and his four brothers had all suffered severely with wind colic in their childhood. Whether heredity has anything to do with the disease I do not know, but this little girl suffered with colic from the time of her birth. She slept only about six hours out of the twenty-four, and naturally did not thrive well. She was thin and not very strong. She had not a wasted appearance, but had no "baby fat." She was weaned at four months.

Symptoms.—Severe pain in stomach, no diarrhœa, no vomiting, and no anorexia. Patient ate greedily after an attack. Patient would lie down and squirm during an attack; no fever.

Physical Signs.—Very perceptible tympanites over epigastric region. Patient cried a great deal, and lay with knees drawn up. She would occasionally try to place her parent's hand on her abdomen. Pressure seemed to relieve her temporarily.

Clinical History.—The attacks were frequent and severe, and were liable to come on at any time. The child would seem to be all right for some time, but would become uneasy and irritable. She then began to cry, and the regular symptoms soon appeared. Her diet was changed from time to time, and milk and bottles were sterilized without effect. No medicines seemed to do any good. This had continued for fifteen months when I took charge of the case. Having given the usual remedies without permanent effect, I devised and prescribed the formula above quoted. She began to improve after the first few doses, by belching forth gas at an astonishing rate. Her grandmother termed it "a regular cyclone." She slept well, gained in weight, and her appetite became more regular. Nearly three months have passed, and she has not had an attack since then, although in the interim she has cut several teeth.

The following prescription I have found very successful in the treatment of coryza, hay fever, and subacute or chronic nasal catarrh:

℞. Acidi tannici,
Acidi boraci.....āā .65 (gr. x.).
Cocainæ hydrochloratis..... .16 (gr. ijss.).
Aquæ.....q s. ad 30 (oz. j.).
M. Sig.: Use as a spray.

It forms a white mixture, and is not irritating to the nose or throat. The frequency of its use can be regulated to suit the exigencies of the case. Its action is antiseptic, astringent, and sedative. The following is a case in point:

Mrs. N——, twenty-four years of age, of good mind and will-power, contracted, in the summer of 1892, acute coryza from sleeping in the open air in a hammock, while out on a camping party. The cold resisted treatment and relapsed into a subacute or chronic form, with a number of symptoms of autumnal catarrh or hay-fever. She sometimes drew long strings of tough yellowish mucus from her nose. Dust and the odor of flowers made her sneeze repeatedly and violently. Picking up a wet cloth, bathing, or feeling the slightest draft had the same effect. Dusting, sweeping, or staying in a room being swept were impossible for the same reason. Her nose was often stopped up, and sometimes swelled out on either side of the bridge. She occasionally had pains between her eyes, and continually breathed through her mouth. She occasionally slightly improved, but never permanently. Such was the condition of things when the case came under my notice. Rhinoscopic examination showed hypertrophy of the turbinated bones and an inflamed condition of the mucous membrane covering them. There was a slight deflection of the nasal septum to the right. I examined particularly for polypi rhinoliths and foreign bodies, but found none. I put the patient on tonic treatment and prescribed a spray, consisting of sulphate of zinc, hydrochlorate of cocaine, and water. This was continued for about a week without benefit. I then prescribed a snuff, the ingredients of which were boric acid, bicarbonate of sodium, cocaine, and subnitrate of bismuth. This was very irritating, and had to be discontinued. I then ordered the formula written above to be used as a spray every two hours. The tonic treatment was continued. Temporary improvement began at once, and in three days the patient found she could bear exposure better than before. Within a week the discharge had lessened, the hypertrophy had diminished, and the patient had ceased sneezing. Between three and four months have now elapsed since I took the case, and the patient never sneezes when dusting, sweeping, or bathing. She can smell flowers, pick up a wet rag, and bear exposure without any disagreeable symptoms following. The discharge has ceased, and the patient breathes through her nose habitually.

The following formula I have found very effective in menorrhagia and metrorrhagia:

℞. Extracti hydrasti fluidi ..... c.c. 15.00 (℥ ss.).
Extracti ergotæ fluidi..... c.c. 30.00 (℥ j.).
Strychninæ sulphatis..... gmm. 0.20 (gr. iij.).
Tincturæ ferri chloridi..... c.c. 45.00 (℥ jss.).
Syrupi simplicis .....q.s. ad c.c. 237.00 (℥ viij.).
M. Sig.: ℥ j. (4 c.c.) t.i.d. after meals.

I offer the above prescriptions in the hope that they will be of use to my confrères as they have been to me, and I will be glad to hear personally from any gentlemen of the profession who have had either good, bad, or negative results from their use.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE UNIVERSITY QUESTION—LORD ROSEBERY'S VIEWS —THE OBSTETRICAL SOCIETY AND THE GENERAL MEDICAL COUNCIL—THE CHELSEA HOSPITAL SCANDAL —OYSTERS AND DISEASE—INSANITARY BAKERIES.

LONDON, January 26, 1895.

THE university question has occupied much attention during the week. The cry for a teaching university in London has been loud enough for a long time past, and the possibility of reconstructing the existing "University of London," which is in reality only an examining board, has been discussed in all its aspects and with all the bitterness that conflicting interests occasion. It is said the question is now approaching a settlement, and certainly the events of Tuesday seem to indicate that the government is no longer afraid to touch the subject.

Lord Rosebery received three deputations on Tuesday in respect to this university question. One of these was in favor of the scheme recommended by the Gresham commissioners last year, which is in essence a proposal to federate all the educational bodies of London of what may be called academic rank. The other deputations opposed this, though on different grounds. The same day there was a special meeting of the convocation of the university to discuss the scheme, and the opposing parties carried on their rather hot debate for between four and five hours. Eventually a resolution was passed in favor of having but one university, and not two, which involves the acceptance of reconstruction, so as to convert the present university into a teaching as well as an examining body. Whether the scheme of federating the colleges and schools under the shadow of the university will effect this, is another question, and in face of the opposing interests may well give rise to misgivings.

Lord Rosebery admitted that London ought to have a teaching university, and observed that if, as proposed, a statutory commission should be agreed to by Parliament, it would have to be on the lines indicated in last year's report, but still to a great extent unfettered in regard to details.

In reference to the incompatibility between a teaching university and an examining board, which was forcibly urged by one of the deputations, the Prime Minister said he could not admit the doctrine that there is such an essential incompatibility, and intimated that the interests of the empire as well as the metropolis were to be considered. Some of the parties are rather jubilant and talk of the coming bill as though it were an act. Others regard as ominous the warning uttered by Lord Rosebery, that if a bill were introduced it could not pass if it met with any long or obstinate opposition in the House. Unless a certain section of graduates falsify all their threats, there will be resistance, both long and obstinate, so that notwithstanding the jubilations of medical teachers around I would warn them against a too confident assignment of their unhatched chickens. Not that I have any sympathy with the selfish assertion of vested interests, or the absurd fear that the degrees will be lowered in value by diluting the power of cram which has hitherto reigned supreme in the London university. The selfish assertions of these fearful graduates is on a par with that of the Fellows of the College of Surgeons. It is a singular fact that these two sets, who pride themselves on their diplomas, oppose every movement which would render those diplomas more popular and thereby increase the prestige of their corporations.

The Obstetrical Society does not like the resolution of the General Medical Council about their diplomas, and Sir John Williams has sent to the journals quite a whining letter about leading obstetricians being "branded with contingent infamy." They have simply been warned that, whoever in future takes part in the issue of unlegalized diplomas will be liable to have his conduct regarded as "infamous in a professional respect." This is the only sentence the council has power to pronounce, and as the society has had three warnings they had better give heed to the voice of the profession. Some of the officials of the society pretend they have never heard of any objection to their certificates. They must be very ignorant or very deaf to the voice of the general practitioner. For many years I have never heard the subject brought up in medical conversation without the conduct of the society being condemned in most forcible terms. The leaders seem hardened, and nothing short of the action of the council was called for. This action will go far with a large number to make the general medical council more respected than heretofore. While professing to be guided by the highest motives, the society has really let loose on the profession a number of imperfectly educated midwives who, on the strength of the diploma, compete for practice, not only in midwifery but in diseases of women and children. And the leaders who have done this thing hold up their hands in horror when plainly told that such conduct is "infamous." Then they dilate further on their disinterested views, as midwives are not their rivals. Of course not. Consulting obstetricians are not afraid of the competition of midwives, and in their disinterestedness say nothing of the twelve hundred pounds they have obtained by the sale of these diplomas!

The Chelsea Hospital for Women election has been, as I expected, a farce. After taking the opinion of certain consultants, the board of management have disregarded it and re-elected the former staff. A good deal of abuse is being uttered over the conduct of the board, but what else was to be expected? The last news is that the advisory committee have resigned their functions. They ought never to have undertaken to advise a board possessed of such a constitution and such a history. Why eminent consultants should want to "put their fingers into such a kettle" is what "no fellow can understand," unless they wanted to put in their own man or men, and if so the snub they have received is no more than they deserve—certainly no more than I anticipated.

Oysters are still under the ban, not only typhoid but cholera, and other diseases, are suggested as being propagated by the bivalve. Some think lobster and crab also dangerous. Then salads, watercress, and other green food are equally condemned, so no more oyster suppers or lobster salads. And this, too, when Drs. Walsh and Waldo have shown that baking does not kill the bacteria which swarm in a new loaf made in some of the insanitary bakeries of the metropolis. I have for some time only eaten machine-made bread, the product of one of the large bakeries in which the hand is not permitted to touch the bread. This certainly seems to offer an advantage over some of the disgusting details that have been published about certain small bakehouses in poor neighborhoods.

THE MARRIAGE OF SYPHILITICS.

To the Editor of the Medical Record.

Sir: I notice in your last number another letter from Dr. Maine, of Auburn, in reference to the marriage of syphilitics. It would be a great satisfaction, to me at least, Mr. Editor, if the doctor could be induced to present a few definite facts, or at least quote even a single authority upholding the position he takes, instead of dealing entirely in glittering generalities. The doctor says that he has received letters from all parts of the United States giving statistics in regard to syphilis to the third generation, and I doubt not that he would receive an equal number if he had written upon contagiousness of fracture of the fibula. He could scarcely have received one from Keyes, who says, "After the virulence of the disease has been exhausted a man may marry, and should marry;" nor from Taylor, who says, "If possible, it is always well to delay the marriage of a syphilitic person until the end of the second year of infection;" nor from the distinguished French author, Alfred Fournier (whose name the doctor kindly adds to my list), who affirms that "Syphilis is but a temporary bar to marriage." I certainly did not write to the doctor; but why quote farther, as authorities the world over are practically agreed on this subject. If we are to consider tuberculosis and marasm (?) as syphilis in the third generation, the doctor will have no difficulty in sustaining his position, but he must settle that with the pathologists. As for controlling the marriage of syphilitics by legislation, it is absolutely infeasible. When we see the great number of diseases, as tuberculosis, cancer, insanity, and gout, which are more virulent, more tenacious, and with a greater hereditary tendency than syphilis to the third generation, one cannot help surmising that the doctor may have been wrought up to an over-estimation of the necessity for legislating against the unfortunate victims of syphilis, possibly by the perusal of that interesting work of fiction "The Heavenly Twins."

Very truly yours,
W. K. Otis, M.D.

5 West Fiftieth Street.

VAGINAL HYSTERECTOMY BY ENUCLEATION WITHOUT LIGATURE.

To the Editor of the Medical Record.

Sir: I am sorry to see the attempt made to revive the "enucleation of the uterus," or "extirpation without ligature" or pressure-forceps, which might almost be termed slight-of-hand surgery and may, as a method, be characterized as useless, needlessly dangerous, and antiquated.

Claims of priority for this operation make us feel as if we had just awakened from a Rip van Winkle sleep, for they carry us back to the surgery of three-quarters of a century ago: this is the way our grandfathers removed the uterus, before they knew how to apply a ligature in such inaccessible places, but even they soon learned better. This operation, the so-called enucleation, is not difficult, it was performed with general success in early days and under far more unfavorable conditions, in advanced cases of malignant disease, without speculum, ligature, or clamp, without anæsthesia or antisepsis, and is perfectly described in Wenzel's "Diseases of the Uterus," in Langenbeck's "Neue Bibliothek," vol. ii., iv., p. 672; in v. Siebold's "Journal für Geburtshülfe," by Sauter Constanz, 1822; by Dubourg, Paris, 1829; New Orleans, 1846, and in other publications.

The operation[1] dates back almost to the early days of ovariotomy, and was then performed very much as it now is—and under conditions more trying in every sense; most of the work was done with finger and scalpel handle, resorting to the scissors only when necessary to sever more resistant tissues, less frequently to the knife.

Sometimes tubes and ovaries also were removed. The time taken was in one instance twenty-five minutes, in another forty-five, and this operator claims that his next case should not take over ten minutes.

Hemorrhage was not excessive, and the styptic lint and sponge which were held in readiness for an emergency, to tampon in case of bleeding, were not required; but Sauter distinctly says "the ligature was of course out of the question," the parts seemed too inaccessible. Dubourg applied one ligature, and says that it may be used when necessary. Appalling as it seems to remove an entire organ, and an important one at that, without a single ligature, it is yet feasible and easily accomplished. No large vessel enters the uterus deeply; both uterine and ovarian arteries ramify freely and penetrate the organ in numerous small branches, hence we can work in safety if we keep within the outer layer of uterine tissue or close to its surface.

This is the old operation, successfully performed and minutely described four-score years ago, but then called extirpation (which it actually is, though not a ligature was used), and not enucleation: this was approximated by Langenbeck, 1813, who left the peritoneal covering of the fundus with a little of its muscular tissue. Anyone who attempts enucleation proper in the average case, will meet with the experience of my good friend, Dr. Mundé,[1] who could certainly have accomplished it if feasible. But why this operation? why risk even the possibility of hemorrhage when a harmless ligature or pressure-forceps will insure safety?

What is gained? Absolutely nothing; the operation when possible is less rapid, less complete, and less safe than the modern extirpation. In pelvic suppuration with deposits and matting together of tissues, we must of course enucleate more or less, but that is not in question here. Ligature or clamp are, moreover, essential, regardless of the question of safety, for the purpose of limiting the blood-supply and the abnormally increased nutrition.

What is usually called an enucleation is a vaginal hysterectomy as generally performed, with the especial precaution of keeping very close to, and rather a little within, the uterine tissue, especially when larger ramifications of the uterine or ovarian artery are to be avoided, peeling off and tearing the tissues, and cutting only firmer strands which will not yield to such measures.

Let us not dim the bright lustre of American surgery by a return to the primitive methods of 1800, and by representing as the height of perfection the absence of the ligature, which was then but a necessary result of an imperfect technique.

Truly yours,
Geo. L. Engelmann, M.D.

St. Augustine, Fla., January 29, 1895.

[1] The history of the operation is more fully detailed in my paper on The History of Vaginal Hysterectomy. Transactions of the Southern Surgical and Gynecological Association. 1895.

THE INCOME TAX FOR PHYSICIANS.

To the Editor of the Medical Record.

Sir: From all appearances at present, some members of the medical profession in this city and elsewhere, throughout our country, will be called upon soon to render up an account to the Government of their respective incomes for the year 1894, and consequently they would like to have some information as to what the $4,000 allowance is to cover which is stipulated in the law. The pertinent questions are as follows:

Is he allowed under the law his office rent, and if he has a private hospital, such accommodation.

Is he allowed his car-fare, carriage-hire, and if he keeps one, is the mention of his private carriage neces-

[1] American Journal of Obstetrics, January, 1895, p. 66.

sary to the conducting of his professional work. It seems to me that he should be, if corresponding allowance is made for those who are engaged in mercantile pursuits. There are doubtless many other questions of equal importance which should be answered before a just basis of an accounting can be made, but they do not occur to me now. An early answer to these through your journal, will not only oblige me, but many of your interested readers.

SUBSCRIBER.

NEW YORK, January 15, 1895.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 9, 1895.

	Cases.	Deaths.
Tuberculosis	137	133
Typhoid fever	5	1
Scarlet fever	103	9
Cerebro-spinal meningitis	1	6
Measles	60	6
Diphtheria	158	39
Small-pox	0	3

How to Abort a Gonorrhœa —Knowing that the acquisition of a clap is a great misfortune, and that it is the sole cause of many and serious complications, I believe in an abortive treatment whenever this promises success. For my own satisfaction I have proven that, if properly carried out, the abortive treatment of clap may succeed, and without danger of aggravating the disease. Given a case of very short standing, where the discharge consists of mucus with some pus-cells, first examine with microscope for gonococci. Having found them and settled the diagnosis, the patient is requested to urinate. Now, take an endoscope of such size as will very easily enter the meatus, and having lubricated with a little glycerine, examine the first half-inch of the urethra by daylight, without inserting the instrument deeper than is absolutely necessary. If no line of demarcation be seen, remove the instrument; wash it, and insert it for one inch, and examine again. Probably, now a more or less distinct line of demarcation can be made out between the diseased anterior part and the deeper healthy mucous membrane. Carefully wipe out with dry cotton on an applicator, and then apply thoroughly by means of another swab a ten per cent. solution of nitrate of silver. The swab must enter the urethra a little farther than did the mandrel of the endoscope, and all parts of the canal from this point to the meatus must be thoroughly touched. No cocaine should be used. The patient must now go to bed and take bicarbonate of soda in ten- to fifteen-grain doses every two hours, drinking water at the rate of one six-ounce tumblerful every hour. The following day the discharge should again be examined, and if gonococci be found, another endoscopic examination should be made. If the diseased area extends deeper than before, it is not worth while to repeat the treatment, but otherwise silver may again be applied. If the germs vanish and then reappear in small numbers a day or two later, the application may be again made. It has been my fortune to try this treatment only twice, but both men were cured so promptly, all symptoms disappearing within two days, that I shall follow this method in other suitable cases. It it is to succeed it must be employed very early, for gonococci make their way rapidly to the deeper parts, von Crippa having found them in the fluid of the œdematous tissues around the frenum five days after the attack began.—Dr. H. Lilienthal, *Boston Medical and Surgical Journal.*

As Others See Us.—"The other day I heard an apophthegm," writes Mr. James Payn, "which left me with a very exalted idea of the gentleman who uttered it. We were talking of the medical profession, and he observed of it: 'There is a great difference between a good doctor and a bad one, but very little between a good doctor and none at all.' The cynicism of the remark was deplorable, but its intelligence was indisputable."

Up-to-date Medical Advertising.—Visitors to Paris will be familiar with the advertisements with which the walls of the *châlets de nécessité* and such-like useful structures are liberally supplied. From a perusal of these they learn that certain diseases can be cured by Dr. X. (dr. Speaks english, *sic*) in a surprisingly short time and with the greatest ease. But it has been reserved for the present year to show us the length to which such effrontery can go. On the drop-curtain of a certain theatre there may now be read, between two other advertisements relating to beer and pinces-nez, the following: "Docteur-Médecin Spécialiste, vingt-cinq années de pratique, de midi à neuf heures du soir." Then follows the address.—*Lancet.*

The Calibre of the American Intestine.—In communicating to the Société de Chirurgie the results of some experiments he had carried out on dogs with Murphy's anastomosis button, M. Chaput made a statement which seems to us to open up a field for speculation, if not for inquiry. Basing his opinion on numerous measurements of the human intestines, the distinguished French surgeon informed his audience that the 27 mm. button is far too bulky for the small gut in general, and especially for the lower end of the ileum. Of the three sizes he prefers that which is about equal to 21 mm. in diameter; it is the smallest and adapts itself to the situation more readily than the others. Now, the questions suggested by M. Chaput's remarks are these: Do American citizens, as a rule, possess more voluminous intestinal tracts than their French congeners, and, if so, how far is cookery responsible for the difference? It is, of course, notorious that French cooking is the best in the world; has this fact any bearing upon the presumably small calibre of the French bowel! Digestion being made easy, so to speak, is it the case that a partial arrest of development has been the consequence? Is there also discrepancy as regards length between the *primæ viæ* of the two nationalities? Savages are endowed with magnificent mouth furniture, and dental decay is sometimes said to be a product of civilization dependent to a great extent upon knives and forks! Has the human race any reason to dread analogous deterioration as a corollary to elaborate cookery? Finally, and by way of closure to these *obiter dicta*, are dainty dishes a physiological mistake?—*Lancet.*

Cycling and Heart Disease.—Sir Benjamin Ward Richardson, in an address on this subject before the Medical Society of London, drew these nine conclusions: "First, cycling, when carried on with moderation, in so far as the healthy heart is concerned, may be permitted or even recommended by practitioners of the healing art. Secondly, in all cases of heart disease it is not necessary to exclude cycling. It may even be useful in certain instances where the action of the heart is feeble, and where signs of fatty degeneration are found, since increased muscular exercise often improves the condition of muscle, and of no muscle more than the heart itself. Thirdly, as the action of cycling tells directly upon the motion of the heart, the effect it produces on that organ is phenomenally and unexpectedly great in regard to the work it gets out of it. Fourthly, the ultimate action of severe cycling is to increase the size of the heart, to render it irritable and hyper-sensitive to motion, the cycling acting upon it like a stimulant. Fifthly, the over-development of the heart under the continued and extreme over-action af-

fects in turn the arterial resilience, modifies the natural blood-pressure, and favors degenerative structural change in the organs of the body generally. Sixthly, a fact that has only been incidentally noticed in this paper is worthy of notice—namely, that in persons of timid and nervous natures (neurotics) the fear incidental to cycling, especially in crowded thoroughfares, is often creative of disturbance and palpitation of the heart, and ought to be taken account of as a piece of preventive advice. Seventhly, in advising patients on the subject of cycling it is often more important to consider the peripheral condition of the circulation than the central. Enfeebled or worn-out arteries may be more dangerous than the feeble heart, and, when connected with a heart that is over-active, are seats of danger. This same remark would, of course, apply to cases where there is local arterial injury, as in aneurism. Eighthly, venous enlargement seems rather to be benefited than injured by cycling, and conditions marked by sluggish circulation through veins are often greatly relieved by the exercise. Ninthly, there are three things which are most injurious in cycling—(*a*) straining to climb hills and to meet head-winds; (*b*) excessive fatigue; and (*c*) the process of exciting the heart and wearing it out sooner by alcoholic stimulants, and the omission of light, frequently repeated, and judiciously selected foods. Lastly, the time has arrived when practitioners of medicine everywhere should make observations for themselves that confirm or confute these observations, and add to them so much more that I of necessity have omitted."

Dr. Ernest Sansom, in commenting on the above, referred to his oration on rapid heart, delivered before the society, and said that he could only recall one instance in a cyclist, and he had met with no instance of irregular heart among riders. He thought the worst form of exertion was the running to catch a train, which produced both irregularity and rapidity of heart-beat. The influence of cycling was decidedly more in the direction of good than in that of evil. As a therapeutic agent in the treatment of actually existing heart disease it was quite in accord with the recommendations of Professor Hirtl, of Munich, who prescribed physical exercise; but he thought cycling had many advantages over climbing, which Professor Hirtl extolled. He looked upon the cycle as an important hygienic and therapeutic agent, and thought it was responsible indirectly for the immense moral improvement noticeable in the track and the era of the cycle.

Behring and the Saint Paul Prize.—It is rumored that Herr Behring's visit to Paris was to assert his claim to the Saint Paul Prize, founded twenty years ago, to be given to whoever found a cure for diphtheria. It has never been awarded. The thousand pounds placed in the hands of the Académie de Médecine has increased by accumulated interest. Many consider that Behring is entitled to it if the value of the antitoxin is established. It is also whispered that M. Dupuy, the President du Conseil, intends offering to Herr Behring the Cross of Commander of the Legion of Honor. If there is any hesitation about taking this step, it is due to political considerations. Perhaps the German Government may not care to see an army surgeon honored by the French Government when he has been left out in the cold by his own.

Transmission of the Infection of Typhoid Fever by Oysters.—In view of the recent epidemic of typhoid fever in Connecticut due to eating raw oysters, the following cases, reported to the *British Medical Journal* by so careful an observer as Sir William Broadbent, deserve notice. Dr. Broadbent says: "I saw on November 12, 1894, with Dr. McCaskie, a young married lady who had been attended, a little more than a month previously, by Sir John Williams in her confinement. Up to the time of the attack, for which I was consulted, she had made a favorable recovery. The precautions against the communication of disease of any kind were more than usually careful. Milk and water were boiled, and the sanitary arrangements of the house were perfect. No other inhabitant of the house was ill in any way. In the course of her convalescence from the confinement she had oysters, and in about ten days later was attacked with typhoid fever of an unusually severe type, with early acute tympanites, which proved fatal. On December 6th I saw, with Dr. Benson, a young gentleman who, three weeks before, had had an attack of influenza. After subsidence of the fever he was kept in his room on account of bronchial catarrh. During this time he partook freely of oysters. The sanitary arrangements of the house were faultless; no other member of the household—a large one—suffered; no other source of the attack of typhoid fever, from which he suffered, could be traced. On November 27th I saw, with Mr. Manley Sims, a gentleman and his wife who had simultaneously been attacked with typhoid fever. The sanitary surroundings were irreproachable; no possible source of typhoid fever could be traced, except that a fortnight before they had partaken of oysters. The simultaneous attack was strong evidence of simultaneous exposure to the poison. One of these cases ran a somewhat severe course; the other, in respect of fever, was mild, but was attended with more than usual gastric catarrh. In the course of our attendance on these cases Mr. Manley Sims gave me particulars of an extremely severe attack of typhoid fever in a child, aged eight years. No other member of the household was affected, and no possible source of poisoning could be traced, until it was ascertained that shortly before the attack the child had eaten twelve oysters at the house of friends of the parents. On November 23d I saw a young married lady who, ten or fourteen days previously, had on two occasions had six oysters with a young married lady of about her own age, a cousin. She had a mild attack of typhoid fever, attended, however, with unusually severe gastric catarrh. Her cousin, who meantime had gone to Italy, also suffered from typhoid fever. On November 19, 1894, I saw, with Dr. English, two young men living in the same house, one being the brother-in-law of the other. The sanitary arrangements of the house were good. No other member of the household suffered. The two young men were engaged together in the City in irreproachable surroundings. They had simultaneously been taken ill with an unusually severe form of typhoid fever. One was moribund at the time of our first consultation; the other, after apparently recovering from the severe symptoms, of which acute tympanites was one, ultimately died of perforation. No cause for the disease could be discovered, except that after visiting a theatre they had had an oyster supper together some ten days previous to the setting in of the symptoms. Early in December I was called in consultation into the country by Dr. Forster, of Daventry, to see a clergyman and his daughter, twelve years of age, both suffering from typhoid fever. The daughter had been attacked a few days before her father. Typhoid fever was an unknown disease in the neighborhood, the sanitary arrangements were those usually found in a large country house. Great attention had been paid to the ventilation of the drains and cess pit. No other member of the household was ill. About a fortnight before the attack they had twice had oysters down from London, which had been eaten by the father and the little girl, no one else having partaken of them.

"Other cases, in which the evidence was equally convincing, have come to my knowledge, although the patients have not been under my care, and I have seen several cases of typhoid fever in gentlemen engaged in the City, their families at home not suffering. On inquiry it has been found that they frequently took oysters for lunch."

Medicine and Meteorology.—The Chief of the Weather Bureau, Mr. M. W. Harrington, has issued the following circular:

U. S. DEPARTMENT OF AGRICULTURE,
WEATHER BUREAU.
WASHINGTON, D. C., January 2, 1895.

The interest manifested by every class of people in the subject of climate and its influence on health and disease, has determined the Honorable the Secretary of Agriculture, through the medium of the Weather Bureau, to undertake the systematic investigation of the subject. It is hoped to make the proposed investigation of interest and value to all, but especially to the medical and sanitary professions, and to the large number of persons who seek, by visitation of health-resorts and change of climate, either to restore health or prolong lives incurably affected, or to ward off threatened disease. The study of the climates of the country in connection with the indigenous diseases, should be of material service to every community, in showing to what degree local climatic peculiarities may favor or combat the development of the different diseases, and by suggesting, in many instances, supplementary sanitary precautions; also, by indicating to what part of the country invalids and health seekers may be sent to find climatic surroundings best adapted to the alleviation or cure of their particular cases. The hearty co-operation of the various boards of health, public sanitary authorities, sanitary associations and societies, and of physicians who may feel an interest in the work, is asked to achieve and perfect the aims of this investigation. No compensation can be offered for this co-operation other than to send, free of cost, the publications of the Bureau bearing upon climatology and its relation to health and disease, to all those who assist in the work. Co-operation will consist in sending to this office reports of vital statistics from the various localities. That these reports may be of value, it is evident to all that they should be accurate and complete, and be rendered promptly and regularly. Blank forms of reports have been prepared so as to occasion as little trouble and labor as possible on the part of the reporter, and will be furnished by the Bureau on application. At the very beginning of the investigation it is not possible to outline precisely the channels through which the results obtained will be made public, but it is hoped to publish soon a periodical devoted to climatology and its relation to health and disease. The publication will probably resemble in size and general appearance the present *Monthly Weather Review*, the subject-matter being, of course, different. More detailed information will be furnished on application.

Unusual Malformations of the Brain.—At the meeting of the Association of American Anatomists in New York, on Saturday, the 29th, in connection with the general subject of the Significance of Anomalies, Professor Wilder showed three remarkable specimens from the collection of Cornell University: 1. An adult human brain with a complete interruption of the central fissure. The total number of such cases recorded does not exceed twenty. 2. A sheep's brain lacking the callosum or great cerebral commissure. Several human brains with this defect have been described, but the only other cases with animals are three cats, all in the Cornell museum. 3. A three months human fœtus where the left olfactory bulb, commonly rudimentary, is half as long as the cerebrum, as in most of the lower animals, and contains a considerable cavity. It has long been a belief of Professor Wilder that the olfactory apparatus is primary and of great morphologic importance; that the recognition of food by the smell was once more essential than reflection upon its qualities. The specimen in question, believed to be unique, suggests the possibility of reversion toward a far-off ancestral type.

Intra-laryngeal Injections.—At a recent meeting of the Royal Medico-Chirurgical Society, Mr. Colin Campbell reported a large number of cases of respiratory disease treated by injections through the larynx, after the method advanced by Rosenberg twenty years ago. The drugs used were generally guaiacol and menthol dissolved in olive-oil and glycerine. The results in many instances were very encouraging.

BOOKS RECEIVED.

THE VACCINATION QUESTION. By Arthur Wollaston Hutton, M.A. 12mo, 120 pages. Price, 1*s.* 6*d.* Published by Methuen & Co., London, England.

OBSTETRIC SURGERY. By Drs. Egbert H. Grandin and George W. Jarman. 8vo, 207 pages. Illustrated. Price $2.50. Published by the F. A. Davis Co., Philadelphia, Pa.

HIGHER MEDICAL EDUCATION. By Dr. William Pepper. 8vo, 100 pages. Price, $1.00. Published by J. B. Lippincott Co., Philadelphia, Pa.

THE DISORDERS OF SPEECH. By Dr. John Wyllie, Edinburgh. 8vo, 495 pages. Illustrated. Price 18*s.* Publishers, Oliver & Boyd, Edinburgh.

TRANSACTIONS OF THE COLORADO STATE MEDICAL SOCIETY. Twenty-fourth Annual Convention. By-laws and List of Members. 8vo, 486 pages. Denver, June, 1894. Published for the Society.

DISEASES OF THE BREAST. By W. Roger Williams, F.R.C.S. 8vo, 572 pages. Illustrated. Price 21*s.* Published by John Bale & Sons, London, England.

HAHNEMANN'S THERAPEUTIC HINTS. By Dr. R. E. Dudgeon. 8vo, 59 pages. Publishers, F. Gould & Son, London, England.

DIFFICULT LABOR. By G. Ernest Herman, M.B., Lond., F.R.C.P. 8vo, 443 pages, illustrated. Publishers, William Wood & Co., New York City.

THE PHYSIOLOGY OF THE CARBO-HYDRATES; THEIR APPLICATION AS FOOD AND RELATION TO DIABETES. By Dr. F. W. Pavy. 8vo, 280 pages. Illustrated. Price, 10*s.* 6*d.* Published by J. & A. Churchill, London, England.

THE THEORY AND PRACTICE OF MEDICINE. By Dr. Frederick T. Roberts. Ninth edition. 8vo, 1,168 pages. Illustrated. Price, $5.00. Published by P. Blakiston & Co., Philadelphia, Pa.

THE RETROSPECT OF MEDICINE. By James Braithwaite, M.D. A half-yearly journal. Vol. cx., July to December, 1894. 12mo, 438 pages. Illustrated. Published by Simpkin, Marshall, Hamilton, Kent & Co., Ltd., London.

CLINICAL LECTURES AND ESSAYS ON RICKETS, TUBERCULOSIS, ABDOMINAL TUMORS, AND OTHER SUBJECTS. By Sir William Jenner, Bart., G.C.B. 8vo, 329 pages. Price, $4.00. Published by Macmillan & Co., New York City.

RELATIONS OF DISEASES OF THE EYE TO GENERAL DISEASES. By Max Knies. 8vo, 455 pages. Illustrated. Edited by Henry D. Noyes, M.D. Price, $4.25. Published by William Wood & Co., New York City.

THE LIFE AND LETTERS OF DR. SAMUEL HAHNEMANN. By Dr. Thomas Lindsley Bradford. 8vo, 513 pages. Price, cloth, $2.50 net. Half morocco, $3.50 net. Published by Boericke & Tafel, Philadelphia, Pa.

SURGICAL PATHOLOGY AND THERAPEUTICS. By Dr. John Collins Warren. 8vo, 832 pages. Illustrated. Price, $6.00, by subscription only. Published by W. B. Saunders, Philadelphia, Pa.

DOSE-BOOK AND MANUAL OF PRESCRIPTION WRITING. By E. Q. Thornton, M.D. 8vo, 334 pages. Illustrated. Price, $1.25. Published by W. B. Saunders, Philadelphia, Pa.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. Eighth Session. Held at Washington, D.C., May, 29, 30, and 31, 1894. Vol. vii. 8vo, 358 pages. Illustrated. Published by the Association, Philadelphia, Pa.

TWENTIETH CENTURY PRACTICE OF MEDICINE. An International Encyclopædia of Modern Medical Science. By Leading Authors of Europe and America. Edited by Thomas L. Stedman, M.D. In 20 volumes. Vol. I., "Diseases of the Uropoetic System." 8vo, 737 pages. Illustrated. Subscription. Extra Muslin, $5; Leather, $6; Half Morocco, $7.50. Published by William Wood & Company, New York City.

A MANUAL OF DISEASES OF THE EAR. For the Use of Students and Practitioners of Medicine. Second Revised Edition. By Dr. Albert H. Buck. 8vo, 457 pages. Illustrated. Price, $2.50. Published by William Wood & Company, New York City.

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Original Articles.

SOME NEW OBSERVATIONS UPON THE CAUSES, MODE OF ONSET, AND PROGNOSIS OF APOPLEXY.

BY CHARLES L. DANA, M.D.,

NEW YORK.

Introductory.—The following paper was read in part before the American Neurological Association at its meeting in 1894, and in part before the Practitioners' Society of New York.

A criticism was made at both meetings in regard to the use of the word apoplexy and the propriety of studying a disease of the cerebral blood-vessels from the clinical standpoint.

It might, perhaps, be more scientific to make the title of my paper "A Study of Disease of the Blood-vessels of the Brain with Reference to those Conditions which Lead to their Sudden Rupture or Obliteration." But to my mind the word apoplexy at once suggests all this, just as the term Bright's disease suggests disease of the kidneys and general vascular and cardiac changes.

By the term apoplexy I mean all those sudden vascular lesions which lead to a "stroke," followed as a rule by some form of hemiplegia. It includes not only cerebral hemorrhage but also cerebral embolism and thrombosis, and it is a clinical term which, like hemiplegia, we cannot do without. It is the capital and often terminal symptom of most cases of severe disease of the brain-vessels, and its onset is a fair measure of the seriousness and progressiveness of such disease. Hence we may legitimately use it as a basis for clinical study, always bearing in mind, of course, that in studying it we really are studying the vascular changes in the brain.

In reviewing the records of my personal experience with cases of apoplexy due to hemorrhage and acute softening, I have been struck with the fact that there were some things in connection with the causation and onset of the attacks which differed from the statements ordinarily made. My interest was sufficiently excited to lead me to go more critically over the records of my cases, and the result has been that I find evidence compelling me to reconstruct some of my views regarding apoplexy. It is often the fact that the common and frequently observed morbid conditions are those about which errors become current; and in regard to the matter of apoplexy I find that many writers have based their statements upon statistics which have been handed down from the now somewhat venerable records of French and English hospitals and from the systematic writers on this subject of half a century ago. In this country, at least, there has not been, so far as I know, any extended critical analysis of large numbers of cases of cerebral hemorrhage or of acute softening. In Lidell's work on apoplexy, which appeared in 1873, the number of published cases and the total number of analyzed cases is very small. Excellent systematic articles have appeared from such writers as Flint, Osler, Mills, Gray, and others. Still many of the statements made regarding the etiology and the onset of apoplexy are not borne out by a study of the records which I have investigated. These records consist of 100 consecutive cases of apoplexy with hemiplegia observed in my clinic at the Post-Graduate Hospital, and 82 cases of apoplexy with autopsy observed in Bellevue Hospital. Of these 82 cases I should add that over thirty came under my personal care and observation. The total number of cases, therefore, which I have utilized for study is 182, of which 100 were non-fatal and 82 fatal. I have attempted to analyze the histories of these cases, so far as was possible, first with relation to the predisposing causes, next with relation to the exciting causes, and lastly with regard to the premonitory symptoms and onset.

Predisposing Causes.—Taking up first the question of the predisposing causes, I will say at once that I do not propose to weary you with unnecessary statistics regarding age and sex, nativity, occupation, etc. In regard to these points I shall simply say that one-third of the cases are in females, and that the special apoplectic age is between forty and fifty years. This is particularly true of the fatal cases, while of non-fatal cases rather more occur between the thirtieth and fortieth year. My figures show also that three-fourths of all adult apoplexy occurs between the ages of thirty and sixty, being pretty evenly distributed between the fourth, fifth, and sixth decades. If one were to leave out syphilitic cases, however, we should find that the most serious decade was that between the fifty-first and the sixtieth year. Finally, after the age of seventy apoplexy is relatively rare and is little to be feared. These conclusions regarding age are in accordance, in a general way, with other experience, and I do not present them here as novel.

Taking hemiplegia as a whole, I find that a very distinct history of syphilis was found in 36 out of the total 100 non-fatal cases. In 4 the attack was due to the puerperium; in 1 it followed typhoid; in 5 the patients worked in lead or were painters; in 1 there was Bright's disease; in 5 there was a severe cardiac trouble; in 5 the patients were drivers and heavy drinkers; in 10 others exposure and heavy drinking were striking elements in the history.

This accounts for two-thirds of the cases, one of these thirds being syphilitic. This fact that syphilis causes one-third of all cases of apoplexy has not, I think, been heretofore brought out, though I feel sure that the experience of neurologists will confirm it.

One may feel that the chances of a stroke are immensely lessened if he has not had syphilis and is not subject to Bright's disease, heart disease, or alcoholism.

The special characteristics of the attacks due to syphilis are that they occur early in life, there being, out of 36, 11 in the decade between twenty and thirty, 13 in the next decade between thirty-one and forty, and 9 in the fifth decade between forty-one and fifty. They occur more often, relatively, in women. The prodromata are frequent. The attacks are often multiple in character, and the pathological condition underlying them is usually a thrombosis and softening. While it used to be taught that early apoplexies were embolic, I believe it would be more correct to say that they are syphilitic, and either thrombotic or hemorrhagic.

We can account now pretty satisfactorily for two-thirds of cases of apoplexy by syphilis, the accidents of labor, heart disease, Bright's disease, excessive exposure, and more particularly intemperance in drinking or chronic alcoholism. If a person has not had syphilis and is not a drinker the chances of his dying of apoplexy

are very greatly lessened. The remaining one-third of the cases has still to be accounted for, and this third includes for the most part, I believe, cases of intracranial hemorrhage, rather than softening. The most important factors here, are heavy eating with insufficient exercise and some congenital tendency to arterial disease due to a gouty or rheumatic diathesis. Excessive mental work does not lead to apoplexy, and brain-workers do not die of this disease unless they are intemperate in eating, drinking, and perhaps in smoking, though on this latter point I feel doubtful. Two of my cases only gave a history of excessive use of tobacco as the sole predisposing cause. It is often stated, and is commonly believed, that one attack of apoplexy predisposes to another, and that a person who has had a vessel broken or occluded is extremely liable to have a second attack within two or three years, but the frequency of repeated attacks seems from a study of my cases to be much exaggerated. Thus out of the 79 fatal cases only 4 had had previous seizures, while out of the 100 non-fatal cases 17 had had previous attacks. This makes the proportion of multiple seizures about eleven per cent., but a closer analysis of the records shows that the majority of the multiple attacks occurred in syphilitics and were of a thrombotic character. I do not think, therefore, that the current view that apoplectic patients are liable to secondary attacks is quite correct. While it is true of attacks due to syphilitic thrombosis and to attacks occurring at an advanced age, it is not so of cerebral hemorrhages of non-syphilitic origin. So far as my experience and records go, cerebral hemorrhages are rarely repeated, and it seems as if in many cases the rupture of an artery changed the vital conditions, as it certainly does the personal habits, so that the apoplexy exercised a conservative influence upon the individual, and actually tended to prolong life. It is, I have no doubt, the experience of many that persons who have had a moderate attack of cerebral hemorrhage may live for many years in fairly good health. The wards of our almshouses and hospitals for chronic patients confirm this.[1]

The age at which multiple attacks begin corresponds with that at which the most strokes occur, that is, from forty to sixty years. The interval between the attacks in my 17 cases ranged from one-half to four years, averaging two and a half years. If a patient, therefore, goes three years without having a second attack he is fairly safe. It may be said in this connection that in most of the syphilitic cases the apoplexy occurs in the second or third year after infection, and it is during this time that the patient most needs watching. Still I have records of cases occurring eleven, thirteen, fifteen, twenty-five, and thirty years after the original infection.

Number of attacks in 83 cases	1
Number of attacks in 10 cases	2
Number of attacks in 6 cases	3
Number of attacks in 1 case	4

Influence of Civilization.—The conditions of modern civilization undoubtedly are tending to increase the number of cases of apoplexy, particularly those due to rupture of blood-vessels. The fact that under better sanitary conditions more people reach the apoplectic age is one cause of this. The gradual lessening of the number of acute infectious fevers and the consequent lessening of mortality from such diseases increases the proportionate number of deaths due to diseases of the arterial system; in fact, the stress of modern civilization shows them more, so far as organic disease is concerned, upon the arteries than it does upon the nervous system. The increased opportunities for indulgence in luxurious modes of living, and in excessive eating and drinking, tend to impair the integrity of the coats of the arteries, and to promote conditions of arterial fibrosis. Already this fact may be demonstrated by the statistics of our great cities, as well as deduced from the known laws of pathology.

I speak, perhaps, with more positiveness that I ought, for actual facts regarding the subject are hard to obtain. This is largely due to the peculiar and now antiquated methods of classifying nervous diseases adopted by all English and American health boards. Deaths from acute lesions of the cerebral blood-vessels are classified as "apoplexy," "softening," and "paralysis." The statistics of a large life insurance company, the Mutual Life, were kindly examined for me by Dr. Marsh, and he states that he finds no especial evidence of an increase in apoplexies. But these statistics are, of course, selected cases.

The vital statistics of the Massachusetts Board of Health show that apoplexy as a cause of death rose from the fifteenth in rank in 1877 to fourteenth in 1881, eighth in 1885, tenth in 1890, and seventh in 1892. The number of deaths per ten thousand from apoplexy, paralysis, and softening is shown here:

RATE PER TEN THOUSAND DEATHS FROM ALL CAUSES.

	1860	1865	1870	1875	1880	1885
Apoplexy	1.93	2.08	2.70	2.78	4.19	5.12
Softening	.36	.33	.58	.59	.68	.65
Paralysis	3.26	3.78	4.32	5.43	5.23	5.82

In Michigan the death-rate per hundred thousand population is shown in the following table:

	1871–1875	1876–1880	1881–1885	1886–1890	1891
Apoplexy	5.8	6.6	5.9	7.3	10.0
Paralysis	12.5	16.6	20.6	26.9	27.9

In Rhode Island since 1855 the total number of annual deaths has tripled, the deaths from apoplexy and paralysis have quadrupled.[1]

In New York City the deaths from apoplexy and paralysis have increased from 314 in 1866 and 272 in 1867 to 1,194 in 1892 and 1,171 in 1893.

The deaths from these causes between the ages of twenty-five and sixty-five have increased from 219 in 1866 and 197 in 1867 to 939 in 1892 and 931 in 1893.

Here, too, therefore, the deaths from apoplexy and paralysis have quadrupled, while the total death-rate has increased from about 25,000 to a little over 40,000, *i.e.*, it has about doubled.[2]

With regard to the country as a whole, I doubt if the census statistics will prove of much value on the point at issue. The figures for the last census at any rate are not yet available. Dr. J. S. Billings writes me: "The only data that I can give you about apoplexy are that there were reported 8,040 deaths in males and 6,959 deaths in females. With this should be put the majority of the deaths reported as due to paralysis, namely, 8,554 for males, and 8,016 for females."

The total figures of the decennial census reports show a disproportionate increase in deaths from apo-

[1] Through the kindness of Dr. E. D. Fisher, Neurologist to the Almshouse Hospital and Hospital for Incurables, I have been able to secure statistics bearing on the question of duration of life after attacks of apoplexy followed by hemiplegia in 80 patients. A few of them were cases of hemiplegia coming on in infancy and childhood, and these I have not used in my estimates. The average duration of time among 68 men and women since their first attack was five years (the patients being all still living). Among 74, there were 25 who had lived over five years and 49 less than this time. Fourteen had lived over ten years and 4 over twenty years. The longest period since the attack was thirty-two years. Among the 25 who had lived over five years, 10 had had multiple attacks. Over three-fourths had lived less than eight years, and it might be inferred that this is an average maximum duration of life. It must be remembered, however, that many patients are advanced in life when their seizure occurs, and that the natural decay is a factor in shortening their lives. Among the long-lived cases, the majority (two-thirds) were between the ages of thirty and fifty. The sexes of the long-lived patients were about evenly distributed. There were, among the whole 80 patients, 36 women, and 44 men.

[1] Annual Report of Board of Health.

[2] The figures for New York were kindly supplied to me in great detail by the New York City Board of Health.

plexy and paralysis, but this may be due to imperfections in the earlier statistics. In talking with physicians who have practised many years in the country or small towns I find that they have the opinion that they see more cases of apoplexy than usual.

All these, then, support, in a general way, the view that apoplexy, in its various forms, is increased by the conditions of modern civilization.

Exciting Causes and Mode of Onset.—As to the exciting causes of attacks of apoplexy, some misapprehension apparently prevails. We all know that many fatal cases occur in persons who have been on a drunken spree, and that of all exciting causes of fatal strokes alcohol is the most potent. On the other hand, in my experience very few attacks take place, as is currently supposed, during some especial mental or bodily strain. One case occurred at stool, 1 during coitus, 2 during great mental excitement, and 2 after an epileptic fit. But, on the other hand, 13 cases out of 41 recorded occurred at night as the patient was retiring or during sleep, and I will add that most of these cases were thrombotic and often syphilitic in character. None of my fatal hemorrhages occurred during sleep, and I doubt if arteries really rupture at that time; at least, among the cases of which there are autopsical records, I got no history of an attack coming on during sleep. The elaborate theories which have been promulgated to explain how an artery can rupture during a quiet sleep are, it seems to me, unnecessary. The frequency with which attacks occur in the morning after breakfast, or in the evening, is somewhat noteworthy. Few cases occurred in the middle hours of the day.

The cases of apoplexy which occur after parturition all took place within eight days, and occurred usually in the morning and during some slight physical effort.

Much has been said and written about prodromata of apoplexy. In cerebral hemorrhage, however, prodromata rarely are noted. In many cases, indeed, the patient even states that he felt unusually well just before the attack. In a few instances persistent headache, cerebral paræsthesia, vertigo, disturbance of sleep, and sensations of fulness about the head are described. It is mostly in cases of thrombosis that prodromata are described, and these are sufficiently familiar. They consist of headache, temporary aphasia, vertigo and syncopal attacks, slight temporary hemiplegia, insomnia, a sense of oppression, etc.

The following table gives a summary of some of the facts noted regarding the circumstances of the attack:

TIME OF ONSET OF ATTACKS.

At night:	While asleep	11
	On going to bed	2
	(Ten of these were syphilitic.)	
In morning:	After breakfast	3
	At stool	1
	On rising	6
	After drinking	8
During day:	While at work (syphilitic)	2
	While sitting at home (syphilitic)	1
	While walking (embolic)	2
	While under excitement	1
	After hard exercise	3
	After drinking	1
In evening		6
	(Four were hemorrhages.)	

SUMMARY.

At night, during sleep or sleeping hours	13
In morning, on rising or after breakfast	18
In evening, after 5 P.M.	6
During day	10
	47

Hemorrhages occur in morning oftenest; next in evening; rarely during day or during sleep.

Conclusions.—In concluding I can hardly make a summary of the points I have wished to bring out without going into considerable detail. I wish, however, to emphasize the fact that apoplexy and hemiplegia occurring in early adult life are much more frequently due to syphilis than to embolism, and syphilis is a factor in a third of all apoplexies, at least in large cities.

The apoplexies are increasing in disproportionate frequency, owing partly to the facts: that more people live to the apoplectic age; that there is a larger urban population with all that that implies in regard to the use of alcohol, the prevalence of syphilis, and the greater intemperance in eating and working.

Apoplexy does not especially affect brain-workers if they live temperately, but rather spares them.

The special facts regarding the mode and time of onset of apoplexies are summarized in the body of my paper.

Apoplexy is sometimes a conservative agent, calling a halt to excessive activity and intemperate living and actually prolonging life.

About one-fourth of those stricken with apoplexy die from the attack (hemorrhages being the most dangerous, thrombosis, especially syphilitic, being least so).

The average duration of life of those who have and survive one attack is over five years. The chances of a second attack before the fourth year are always considerable, yet do not amount to fifty per cent., and are inconsiderable so far as hemorrhages are concerned. Thromboses are much more apt to recur than hemorrhages.

These conclusions, based upon my own cases and in part upon those furnished me by Dr. Fisher, may be subjected to revision when further observations have been made, but they seem to me to represent the facts so far as obtainable now.

50 WEST FORTY-SIXTH STREET.

CASE OF UNILATERAL CONGENITAL PTOSIS.

BY MARY PUTNAM-JACOBI, M.D.,

NEW YORK.

IN December, 1894, was admitted to my ward, at the New York Infirmary, a healthy baby a year of age, remarkably well developed in every respect, mentally and physically, with the exception of the defect to be described in the left eye. This seemed smaller than its fellow, a little more sunken in the orbit, and was now partially, now entirely, closed by the fall of the upper eyelid. Not only, however, was the levator palpebræ thus evidently paretic, but the entire orbicularis seemed ill-developed—a fact which itself suggested that the paresis of the levator was due to imperfect development of the muscle rather than to paralysis of its nerve. The eyelid was frequently twitching, and the eyeball often showed nystagmic oscillations; but the vision seemed to be normal, under the simple test of exhibiting an attractive object while the right eye was closed. The active and laughing baby immediately grabbed at such object in a quite normal manner. The pupils of both eyes were equal and reacted normally to light. No other ocular muscle was affected, and the facial muscles were all intact.

This case is quite exceptional in being confined to one eye, for in almost all cases the lesion is bilateral. It is exceptional in being so partial. For a few weeks after birth the child could not open the eye at all, but then it began to raise the lid a little, and now the eye is about half opened. In the majority of cases reported, some of the other external muscles of the eye shared in the paralysis of the levator palbebræ, but the paralysis of the latter muscle exists alone in this case. There is occasional nystagmus, but no permanent strabismus. It is characteristic of all the reported cases that the internal muscles supplied by the motor oculi, namely, the ciliary and the sphincter of the pupil, are intact, and the same immunity is observed in this baby.

Although Gowers, in his "Treatise on Nervous Diseases," and Michel, in "Gerhardt's Handbook," refer in general terms to congenital ptosis, few individual cases seem to be reported. This particular form of congenital paralysis seems to be more rare than paralysis of the abducens.

Armaignac's case[1] related to a child, aged two years, in whom, as in our case, the lid of the left eye was thin and contracted weakly, and its upper segment could be raised only imperfectly. But there existed, in addition to the atrophy of the levator and orbicularis, a complete paralysis of the superior rectus, for the eyeball could not move upward, though it could in other directions. Further, the face was markedly asymmetrical, the left external orbital region was flattened, the skin immovable during crying. The left eye seemed to belong to another child than the right, one that had become emaciated by a long illness.

Moebius[2] suggests congenital syphilis as a cause of this lesion, and relates a case in a girl six years of age, an habitual sufferer from hemicrania. Moebius relates another interesting congenital lesion of an ocular muscle observed in a man aged fifty, also bilateral, but affecting the abducens nerve; and in addition, the facial nerve on both sides was involved, so that from birth the unfortunate man had suffered from double facial paralysis, affecting the orbicularis, and double external strabismus. The condition was, therefore, the reverse of ptosis, as the eyes could not be completely closed.

The author quotes a similar case from Graefe, and another from Chisholm, of Baltimore,[3] and establishes a special morbid entity under the title, "Congenital Facial Abducens Paralysis." He attributes the paralysis to a lesion of the conjoined nucleus of the abducens and facial lesion, which Chisholm defines as an arrest of development.

Schenkel[4] found in a man, aged twenty-six, a combined congenital paralysis of all the external muscles supplied by the motor oculi, and also of the superior oblique, while the action of the external rectus was feeble. The extensive defect was interpreted as a generalized defect of muscular development. Accommodation remained normal.

Tilly[5] describes a case of congenital bilateral ptosis in a boy twelve years of age. The eyes could only be opened by the action of the frontalis and corrugator muscles. This case again was not simple, but the ptosis was associated with paralysis of the superior and inferior recti muscles.

Lawford[6] exhibited at a London ophthalmological society an extraordinary family, where the father and three out of seven children (the second, fourth, and seventh), all presented this defect, bilateral ptosis, with loss of movements of the recti.

The frequency of ptosis as a symptom of adult syphilis has naturally suggested the inquiry whether the cases of congenital lesion should also be referred to such constitutional taint. However, none of the cases above described exhibited any symptoms of syphilis. Our own case was a typically healthy, chubby baby, and always has been so.

According to Mackenzie,[7] ptosis is a rare symptom in congenital syphilis. He himself relates a case where very severe symptoms were manifested at the age of five weeks, and at three years there was an attack of complete paralysis of both upper eyelids, coming on after a keratitis, and cured at the end of a month. This, observes the author, adds one to the short list of affections of the cranial nerves observed in hereditary syphilis. He has only been able to find four other cases.[8]

[1] Revue Clinique d'Oculistique, vi., 1886.
[2] Munchener medicin. Wochenschrift, February 7, 1888.
[3] Archiv für Augenheilkunde, xvii., 1887.
[4] Centralblatt für Augenheilkunde, 1881.
[5] American Journal of Ophthalmology, 1885.
[6] Ophthalmic Review, 1887. [7] New York Medical Journal, 1884.
[8] Graefe: Virch. Arch., Bd. lxxxiv., S. 269. Barlow: Transactions of the Pathological Society of London, 1879. Downe: Brain and its Diseases, vol. i., p. 76. Galezowski: Recueil d'Ophthal., August, 1879.

Evans[1] performed Panas's operation on a child terribly deformed by a bilateral congenital ptosis. There was entire absence of the levator palpebræ muscles, great flattening of the ossa nasi, well-marked epicanthus.

The operation is designed to enable the occipito-frontalis muscle to replace the missing levator palpebræ. For this purpose two horizontal incisions were made, one along the upper edge of the eyebrow, a second at the junction of the eyelid and the orbit. Below this two shorter incisions were then made, one beginning near each canthus and running to meet each other, but stopping at one-third of an inch apart. The inner end of each incision was united with the lower horizontal incision by a short vertical line, and thus a square-shaped flap formed, adherent below. This was freed; the skin intervening between the two horizontal incisions was undermined, then the flap passed up underneath it and stitched to the upper margin of the incision along the eyebrow. By this means the lower part of the eyelid became united with the occipitalis, and could be drawn up by the contraction of the latter. The result was quite satisfactory.

In the case of the baby at the Infirmary, the unilateral character of the lesion, its partial extent, and the possibility, from the previous history, that the imperfect muscles might become a little further developed as the child grew older, all forbade operative interference for the moment.

THE ELECTIVE ACCOUCHEMENT (SO-CALLED ACCOUCHEMENT FORCÉ); ITS ADVANTAGES.[2]

By L. M. MICHAELIS, M.D.,
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CONFRONTED with the necessity of selecting an operation by which to induce premature labor, our choice will naturally fall on that one which, while possessing comparative ease of execution, holds out prospects of the best results both for mother and child. That the methods in use up to within a short time have been far from perfect, can be seen from the number proposed, tried, and cast aside as unsafe or inefficient. Thus, among these methods, we have faradization, vaginal and intra-uterine douches, injections of carbon dioxide or air into the uterus, irritation applied to the breasts, irritation of the cervix by means of tents or rubber bags inflated with air or distended by water, detachment or puncturing of the membranes, distention of the vagina by means of the colpeurynter or by tampons, and finally, intra-uterine injections of glycerine and the use of the bougie. Some of these methods are unscientific, others are positively unsafe, and all are either uncertain or tedious. Those most frequently resorted to at present are the introduction of a bougie through the cervix to the fundus, between the membranes and the uterine wall, or the injection of sterilized glycerine into the uterus. A great objection to these methods is, that in both there is no little danger of carrying septic matter into the uterus on either syringe or bougie, with the added danger in the latter of directly infecting the woman by means of imperfectly sterilized glycerine. Nor is the use of glycerine without serious danger to the woman by its toxic action on the blood. Embden[3] gives the history of a primapara, in the ninth month of pregnancy, on whom he used this method for inducing labor because of albuminuria with uræmic symptoms. Shortly after the injection she had an eclamptic seizure, and since the glycerine failed to induce labor manual dilatation of the os and extraction of the living

[1] American Journal of Ophthalmology, 1892.
[2] Read before the Medical Society of the County of New York, January 28, 1895.
[3] Embden, O.: MEDICAL RECORD, July 28, 1894.

child were performed by Dr. Charles Jewett. After delivery the pulse was very slow, and the urine for about twelve hours was stained with a gradually lessening amount of hæmoglobin. In twenty-four hours the patient was markedly jaundiced and lay in a semi-comatose condition, followed, after six days, by gradual convalescence. The author quotes two similar cases reported by Pfannenstiel, and ascribes the symptoms noted to glycerine poisoning and the disintegration of the blood caused by the drug, citing in support of this theory the experiments and observations of a number of investigators. Moreover, the action of the glycerine is by no means certain, and when we add to a contemplation of its action on the blood and its uncertainty of producing the desired effect, the further dangers of sepsis and air embolus, it can hardly be said to appeal to one as an ideal method of inducing labor.

The introduction of a bougie to the fundus uteri, between the membranes and the uterine wall, is a mode of procedure which may be regarded as the one almost universally employed at the present time. In common with all the other methods mentioned above, the objection obtains to this also that it is very unreliable in its action. It is not of such uncommon occurrence that a bougie is introduced and lies in the patient's uterus with no more effect than if it were placed on her abdomen, and the physician must resort to the introduction of a second bougie to bring on uterine action. The element of time, too, is one which cannot be disregarded; the bougie is supposed to cause activity of the uterus within twelve hours, yet we are never certain when this will occur till pains actually set in, and in the meanwhile the physician must hold himself in readiness, no matter at what inconvenience or loss to himself, not to speak of possible danger of delay to the woman. Nor is the introduction of the bougie free from accidents. It may curl up on itself in the lower segment of the uterus, and thus defeat its object at the outset; it may cause rupture of the membranes, leading to a tedious and protracted labor; it may cause separation of the placenta with its attendant hemorrhage; and finally, it may cause rupture of the uterus, as in a case reported by Hectoen and quoted by Richard Braun von Fernwald.[1]

Contrast with these uncertain and unreliable methods one which is not only positive in its action, but also certain in regard to time, and comparatively free from danger to both mother and child, and moreover, and by no means an unimportant consideration, a purely *elective* operation.

Before discussing the matter any further, permit me to recall the *modus operandi* to your minds. The operation, as you know, consists of two steps, the preparatory and the operative. In the former we begin by rendering the patient's vagina thoroughly clean and aseptic by the use, first of soap and brush, and then by thorough scrubbing and douching with some antiseptic solution. The cervix is then caught and drawn down by means of bullet-forceps, and sterilized gauze is thoroughly packed into the canal, projecting through the internal os; this done, the bullet-forceps is removed and the packing is continued in the vagina, until that is completely and well tamponed. The patient is then allowed to rest for from six to twelve hours, depending upon her condition and the necessity for interference. In some cases this tamponade is sufficient in itself to bring on labor; in the majority, however, it does not, but softens the os and renders it easily dilatable, both by mechanical pressure and by causing uterine contractions to start in through reflex irritation, the patient almost invariably complaining of slight rhythmical pains. We then proceed to the second step of the operation, which we do also without preliminary use of the tampon in those cases in which the os will admit one or two fingers, or in which labor has already commenced and the indication points toward rapid emptying of the uterus, as in eclampsia or placenta prævia. This second step, or the operation proper, is performed as follows: After the patient has been placed on the table and thoroughly anæsthetized by chloroform, which, as Grandin[1] has again recently pointed out, has a tendency to cause the uterine muscle to relax which ether does not possess, the gauze tampon is removed from the vagina and cervix, and the patient once more rendered thoroughly aseptic; the operator's whole hand is then introduced into the vagina, facilitated by the use of creolin or soap dissolved in ether, and according to the amount of dilatation present, one, or two fingers are passed slowly into the cervix up to the metacarpophalangeal joints when they are fully flexed and very gradually withdrawn; three and four fingers are successively used in this way, and the whole hand is then introduced, the thumb on withdrawal being flexed inside the other fingers; after this the hand is again passed in, but on withdrawing it the thumb lies on the other fingers—in other words a full fist is made, and on repeating this a few times the os will be found to be dilated sufficiently for the passage of any ordinary head. The force used must be firm yet gentle pressure, our object being, as has frequently been pointed out, to overcome the spasm of the cervix by fatiguing the muscle, and not to force our way into the uterus at the expense of that muscle's integrity. The child is then extracted either by means of forceps or by version, according to the preference of the operator and the exigencies of the case, and the uterus washed out with the antiseptic solution, and, if so desired, tamponed with sterilized gauze. After-treatment as usual. That care is necessary goes without saying, and the possible objection that more or less grave injury may result by the careless performance of the operation applies no more to this than it does to other operative obstetric interference. A man who is not careful in all procedures, has no justification for performing any. In the thirty-one cases which I have been able to collect—some as yet unpublished—in which this operation has been performed, in only one was there any serious damage done to the uterine muscle, and that, a deep cervical tear, was immediately repaired, and the patient here, as well as in the others, made an uneventful and rapid recovery.

Those not yet reported are as follows:

Case I.—L. F——, X-para, aged thirty-six, six and a half months pregnant; had been feeling perfectly well until three weeks before I saw her, when she was suddenly seized with hemorrhage from the uterus, for which a vaginal tampon was introduced by a physician. Its removal was followed by recurrence of the hemorrhage, and another tampon was applied, only to be followed by further hemorrhage when it in turn was removed. The bleeding continuing, a second physician was called in, who said that nature would stop the flow, and left the case. A third physician was then sent for, who, seeing the unpromising condition of the surroundings, advised removal of the patient to a hospital; this she would not sanction. I saw her on the afternoon of August 2, 1894, and found her lying in a blood-stained bed, the hemorrhage having continued more or less constantly for the preceding three weeks. Examination showed the size of the uterus corresponding to between the sixth and seventh months of pregnancy; the external and internal genitals revealed signs of recent hemorrhage; the os uteri was high up and tightly closed. While no placental tissue could be felt, and despite the fact that the os was tightly closed, the diagnosis of placenta prævia was made from the history of the case, and, although the general condition of the patient was good, the immediate emptying of the uterus was nevertheless proposed, owing to the fact that the patient was so situated that she could not be under constant observation. Because of the absence

[1] Braun v. Fernwald, Richard: Ueber Uterusruptur. Wien, 1894, p. 18.

[1] Grandin, E. H.: Transactions of New York Obstetrical Society, 1893, p. 376.

of all facilities, the preliminary tamponade was not used. An appointment was made for a later hour, before which time the patient was removed to another and a cleaner room, and other preparations made for the operation. At the specified hour she was placed on the table and chloroformed, the genitals, both external and internal, thoroughly cleansed and rendered aseptic, and the hand introduced into the vagina. The os barely admitted the tip of the forefinger. After the application of gentle, steady pressure for about thirty minutes, this finger was finally introduced, the rest of the operation, consisting of the completion of dilatation, version, and extraction of the child, and removal of the placenta, with irrigation of the uterus, taking about fifteen minutes longer. The placenta was implanted laterally and low down on the right, not quite touching the internal os. The child lived for a few hours after delivery. The patient made an uneventful recovery.

CASE II.—C. K——, IV-para, aged thirty-seven, six and a half months pregnant; had two slight hemorrhages before August 2, 1894. On account of a moderate degree of prolapse which she had had since the birth of her first child, and for which she had been irregularly treated, she was carefully watched, and when the hemorrhage first appeared the diagnosis of placenta prævia was made, and the patient put to bed and uterine sedatives exhibited. On August 2, 1894, she had a sharp hemorrhage for which vaginal tampons were applied, and shortly after labor pains set in. During the night she had numerous exhausting attacks of vomiting. On the morning of August 3, 1894, I was asked by Dr. M. Katzenberg, the attending physician, to assist him at the case. When I saw her, though the hemorrhage had ceased, she was in a feeble condition, owing to the loss of blood and the weakness caused by her vomiting; the pulse was rapid and feeble. Vaginal examination showed an os admitting two fingers, covered completely by a centrally implanted placenta. Emptying the uterus by the elective accouchement was decided upon, and, through the courtesy of Dr. Katzenberg, I was enabled to perform the operation. The patient was placed on the table, chloroformed, and the genitals rendered aseptic. Dilatation proceeded very rapidly. It had been my intention to separate the placenta from the uterus on one side, rupture the membranes high up, and, grasping a foot, turn and deliver through the rent thus made and the passageway produced by separating the placenta, but since the feet could be felt presenting, and at the same time the attachments of the placenta were high up in all directions, I perforated the latter and extracted the child through the opening, and immediately removed the placenta and douched out the uterus, which contracted at once and well. The performance of the entire operation took fifteen minutes, and was attended by remarkably little hemorrhage. The child lived for several hours. Mother's convalescence normal.

Through the kindness of Drs. Grandin and Marx I am able to give the following short synopses of hitherto unreported cases in which the operation has been performed by them. By Dr. Grandin:

CASE III.—Eighth month. Version. In consultation with Dr. Leo. Indication: Profound maternal exhaustion. Success in three-quarters of an hour.

CASE IV.—Eight and a half months. Indication: Flat pelvis. In consultation with Dr. H. L. Collyer. Elective accouchement followed by symphysiotomy. Biparietal of child measured four and a half inches. Success in one and a half hour.

CASE V.—Term. Indication: Eclampsia. Success.

CASES VI., VII., VIII., and IX. were hospital cases in which the operation was successfully performed. Unfortunately the details could not be ascertained.

By Dr. Marx:

CASE X.—Eighth month. Indication: Complete prolapse of cord, fœtus moribund. Version following ineffectual efforts at replacing cord. In consultation with Dr. S. Kohn. Ten minutes.

CASE XI.—Eighth month. Indication: Breech complicated by prolapse of cord with doubtful pulsation. Macerated fœtus removed in ten minutes.

CASE XII.—III-para. Eighth month. Indication: Generally contracted pelvis. First labor terminated by craniotomy, child weighing fourteen pounds eleven ounces without the brain. Second child, still-born, after forced version, weighed twelve pounds two ounces. Success in thirty minutes. Living child weighing eight pounds.

In the thirty-one cases[1] mentioned above, in which are included those just quoted, the operation was performed for placenta prævia in fourteen, for eclampsia in five, for pelvic deformity in three, for maternal or fœtal exhaustion in two, for prolapsed cord in three, and in four in which the indication could not be learned.

The danger of sepsis is also minimized by the use of this method, especially in those cases in which the preliminary tampon is used, for the risk to the patient is greatly diminished by the fact that the presence of the hand, the only possible carrier of septic matter, is of comparatively short duration, and that the uterus is at once completely emptied and then as thoroughly cleansed. It appears to me that with a bougie lying in the uterus for a number of hours there is a much greater chance for the patient to become septic, especially if the instrument be in any way unclean, and the possible need of introducing a second necessarily increases the danger to which the mother is exposed.

While the operation of elective accouchement is indicated in all cases in which labor is to be induced, or in which, having begun, its completion is to be hastened, it is in the treatment of puerperal eclampsia and of placenta prævia that its special value lies. It is not necessary for me to call attention to the fact that, when in eclampsia the convulsive symptoms have set in, the sooner the uterus is emptied the more amenable does the condition become to treatment, and the greater is the chance for the patient's recovery. If the state of the patient be such that, while it calls for the induction of labor, immediate interference is not required, if, in other words, she shows signs of impending eclampsia complaining of headache, ocular symptoms, slight mus cular twitchings, and the pulse be one of high tension, the preliminary tamponade may be employed, the appropriate medicinal treatment being meanwhile instituted, and then at an appointed time the accouchement may be completed. If the convulsive symptoms are already marked and removal of the fœtus be imperative, the patient is deeply chloroformed and the operation performed in one sitting. Incidentally I may remark that, if after delivery the patient's pulse be of high tension, the vascular pressure may be reduced by permitting her to bleed from the uterus, the hemorrhage being easily controlled by the use of the uterine tampon.

Naturally, no hard and fast lines can be laid down by which the operator can be invariably guided; each case must be carefully studied, and depending upon his judgment, either the preliminary tamponade or the immediate operation used according to the patient's condition. By this method, instead of having thirty per cent. and fifty per cent. for the maternal and fœtal death-rate, respectively, we have it reduced to zero for each in all cases in which it has been performed up to the present time, a result achieved by no other way, medicinal or operative, of treating this condition.

The majority of methods devised for the treatment of placenta prævia have one grave defect in common, in that they regard only the life and safety of the

[1] Harris, P. A.: American Journal of Obstetrics, January, 1894. Grandin, E. H.: loc. cit. Grandin, E. H.: American Journal of Obstetrics, October, 1892. Marx, S.: MEDICAL RECORD, February 17, 1894.

mother, and pay little or no attention to the preservation of the child. So much is this the case that the fœtal mortality is variously estimated at from 50 per cent. to 83.4 per cent. While the maternal condition must always be of prime importance to us, it is, nevertheless, the duty of the obstetrician never to lose sight of the fact that the unborn child has important claims on his consideration, and that its life must not be carelessly sacrificed. Rupturing the membranes, tamponing the vagina, separating the offending portion of the placenta from the lower segment of the uterus, and version by the Braxton-Hicks method, all these procedures take little or no account of the child. It is true that in the early months of pregnancy the safety of the child does not enter into consideration, but the mother's life, whether early or late in pregnancy, is always imperilled, and that these methods fail to secure a good maternal prognosis may be seen by a glance at the death-rate, which is put by different observers at from seven per cent. to sixteen per cent. In marked contrast to this are the results obtained by the use of the elective accouchement, for in every case in which this operation has been performed the obstetrician had not only the satisfaction of saving the mother's life, but also that of delivering a living child where the pregnancy had advanced far enough for the fœtus to be viable. It is in this condition, too, that the os, owing to the increased blood-supply to the cervix and the consequent softness and succulence of the tissues, is easily dilated, and that, contrary to the opinion occasionally expressed, the danger of lacerating the uterine tissue is even less here than it is in other conditions.

A frequently expressed criticism is that the operation is extremely radical; in comparison with the others mentioned above it is, yet with such results to look forward to, the physician can easily bear the blame of advocating a radical measure, and indeed be proud of the criticism, for he saves both his patients and their children. Judging by these results, it appeals to me most forcibly that in the radicalism of this method there lies extreme conservatism.

In regard to the factor which gives this operation its name—that of election—few remarks are necessary; the advantage of being able to appoint a definite time when the woman's pregnancy is to be terminated, adding in a very marked degree to the value of the operation. Further, instead of being compelled to adapt ourselves to circumstances, and to the surroundings, and thus do our work under greater or less difficulty, we are enabled to arrange the room and prepare the patient to the best advantage to her and to ourselves, so that when we enter the room at the selected hour, we do so with the knowledge that everything requisite has been carefully provided, and that the patient is in a thoroughly aseptic condition; in other words, that she is in every way ready for the obstetrician as she would be for the surgeon about to perform an operation. The contrast between this picture and that of the waiting and uncertainty dependent upon the use of the bougie, is too marked to call for extended comment.

In conclusion, and refraining from touching upon a discussion of the application of this method in cases of accidental hemorrhage, prolapsed cord, contracted pelvis, or maternal or fœtal exhaustion, I will briefly summarize the advantages of this method as follows:

1. It is indicated in all cases in which labor is to be induced, and in many in which labor is to be rapidly terminated, but is of especial value in puerperal eclampsia and placenta prævia.
2. It is not markedly difficult of performance.
3. It is free from danger of traumatism to the patient if ordinary care be exercised.
4. The danger of sepsis is reduced to a minimum.
5. The ultimate prognosis for both mother and child is excellent.

1090 Lexington Avenue.

ANÆMIA IN CHILDREN.[1]

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By simple anæmia we mean a condition resulting almost invariably as a consequence of previously existing disease, excepting, of course, post-hemorrhagic anæmia, whereby the composition of the blood is greatly altered, resulting in the impoverishment of the vital fluid and the impairment of its function. Should this condition be regarded as a symptom or as a disease? Unquestionably the latter, characterized as it is by certain anatomical appearances and a train of well-marked symptoms.

In children simple anæmia is one of the most important pathological conditions we meet, frequently encountered, complicating many other states, influencing other and grave diseases, always of much significance. In common with the other blood disorders, it is characterized by a diminution in the amount of hæmoglobin, which normally constitutes about ninety per cent. of the bulk of the red cells. The red blood-globules may be only slightly reduced in number, they may even be numerically normal; and in very badly nourished children there is a lessening in the whole amount of blood.

Let us revert briefly to a consideration of the corpuscular elements of the blood, and the relationship of their state or condition to this affection. The red blood-cells are the means by which oxygen is carried to the tissues; they vary in number from four and one-half to five millions per cubic millimetre, in the healthy adult; at birth the number is greater; within a short time it is rapidly reduced.

Nucleated blood-cells, which are normally found in the red marrow, are probably intermediate between the red blood-cells and the marrow-cells; these are not found in the blood of healthy adults, though present in the blood of children up to two or three years of age and in the fœtus. According to Erlich[2] they may be found in the blood of patients suffering from all varieties of anæmia; they are a little larger than the ordinary red blood-cells and contain one or more nuclei.

The white blood-corpuscles are larger and fewer than the red blood-cells in number, being about from eight to fifteen thousand per cubic millimetre normally, although this amount may be greatly increased without affecting the health.

The blood of children contains double and sometimes treble the adult number of white blood-cells, and in exceptional cases even a greater number, and then there is great likelihood that this condition of leucocytosis may be mistaken for leukæmia.

Infants at the breast are said to have present in the blood a greater percentage of leucocytes than those fed on cow's milk. Personally I have not been able to demonstrate this, although I have many times examined the blood of infants for the purpose of comparison. It is an undoubted fact that in all cases of anæmia the amount of hæmoglobin is diminished, the sole exception being in pernicious anæmia, where the hæmoglobin commonly equals or exceeds the percentage of red blood-cells, and this may be demonstrated by means of the hæmoglobinometer, an instrument which, as its name indicates, registers accurately the percentage of hæmoglobin in the specimen of blood. The simplest instrument for practical use is the one devised by Gowers.

In simple anæmia the percentage of hæmoglobin is diminished to a much greater extent than that of the red blood-globules.

In studying any of the blood diseases much may be learned by examination of the blood, 1, for the hæmoglobin, as I have above suggested; and 2, by the microscope, for a determination of the rough proportion be-

[1] Read before the New York County Medical Society, January 28th.

[2] Berliner klinische Wochenschrift, 1880. p. 405.

tween the red and white cells, their color, shape, and size, as well as those of the blood-plaques, the presence of nucleated blood-cells or of foreign bodies such as the *plasmodium malariæ*.

This latter method is simple, and is readily managed by anyone with a microscope with ordinary lenses. For the more exact determination, however, of the relation between the red and white corpuscles special apparatus is required. For this purpose the Thoma-Zeiss hæmacytometer is in common use, and is very simple and easily managed, and consists practically of a slide with a centrally depressed disc, which is divided into microscopic squares. Upon this surface properly diluted blood is dropped, the cells being counted within the given space, and as the dilution is a standard one, the total number of white and red corpuscles per cubic millimetre is easy to calculate.

In various wasting diseases accompanied by great changes in the blood, a condition is sometimes obtained in which marked alterations in the shapes of the red corpuscles occur; they become variously distorted and may even take upon themselves amœboid movements. This is sometimes the case in simple anæmia, but is more characteristic of the condition known as pernicious anæmia.

Etiology.—The causes which lead to the condition of simple anæmia in children are various, chief among them being malnutrition, secondary to graver diseases, such as scarlatina and inherited disease, tuberculosis, syphilis, improper and scanty food, faulty hygiene, including lack of fresh air; and Haig,[1] who has investigated this subject pretty thoroughly, thinks that severe anæmia is sometimes caused by a condition of uric-acidæmia. This I believe to be often the case.

Rachford,[2] as the result of the examination of the blood of one hundred and sixty-six school-girls, has been led to the conclusion that pronounced anæmia without apparent cause is strongly suggestive of concealed tuberculosis, and that anæmia, in apparently non-tubercular girls coming from tubercular stock, is very probably due to a deep-seated and hidden glandular tuberculosis.

Symptoms.—We have seen that in anæmia, 1, the hæmoglobin is reduced, and 2, the red blood-cells may or may not be diminished in number, while the total bulk of the blood may or may not remain practically the same. Therefore, the initial symptom to which our attention is apt to be called in this disease is referrible to this condition—pallor—ranging all the way from almost marble whiteness to dusky yellow; pallor of skin; pallor of all visible mucous surfaces; certain portions of the body become markedly blanched, the ears, nose, and nails.

In some cases the cheeks may be bright red in color while the conjunctiva, the lips, gums, and roof of mouth betray a waxen whiteness. In other cases the temperature is normal, in others an irregular pyrexia may develop, the pulse may be full and soft or small and weak, with the heart's action irregular, while a venous hum may commonly be heard over the jugulars. Leucorrhœa may develop in very young female children and catarrh of the respiratory mucous membranes is of common occurrence.

When the anæmia is secondary to and dependent upon other disease—such as rickets, for example—it is often the first symptom noticed. There is a peculiar puffiness of face, hands, and feet, resembling the œdema of acute Bright's disease. Patients complain of neuralgic pains, the most important and characteristic of which was first pointed out by Flint in cases of so-called spinal irritation, where pressure over the cervical and dorsal vertebræ causes intercostal and cervico-occipital pains, with perhaps the association of nausea, vomiting, palpitation, and a nervous cough.

With these symptoms great weakness and prostration are of frequent occurrence, associated with loss of appetite and obstinate constipation, which latter condition has been believed by Sir Andrew Clark and some other observers to be one of the causes of the disease, by poisoning the patient from absorption of ptomaïnes from the impacted intestinal canal.

Diagnosis.—The diagnosis must be made from chlorosis, pernicious anæmia, leukæmia, beginning pulmonary tuberculosis, and acute Bright's disease.

From Chlorosis.—The age of the patient, as this is an exceedingly rare affection in young children; also the hue of the skin in chlorotic patients is unmistakable, the typical greenish pallor—particularly true of brunettes—being entirely different from the yellow-white or muddy color of simple anæmia.

From Pernicious Anæmia.—A microscopic examination of the blood in this latter condition is essential. The red blood-corpuscles are rapidly reduced in number; they may reach only one-fifth or one-sixth of the normal amount, while on the other hand the percentage of hæmoglobin is relatively high. The red blood-cells are either much larger than normal, or much smaller, and may take upon themselves irregular forms. Nucleated blood-cells are constantly present. The white blood-corpuscles are also diminished, but not to a corresponding degree with the red cells.

From Leukæmia.—In the anæmia of infants leucocytosis is apt to occur, and it is due to this fact that errors in diagnosis are of common occurrence. The composition of the blood, however, is very characteristic. In leukæmia (a rare affection in infants) a constant, steady increase in the number of the white cells obtains, while there is a like steady decrease in the number of red cells. In leucocytosis the number of white blood-corpuscles varies greatly at different times. In leukæmia we have the enlarged liver, spleen, and lymphatic glands, which of course are absent in anæmia, except in a form which has been described by von Jaksch,[1] and which he calls *anæmia infantum pseudo-leukæmia*.

From Beginning Pulmonary Tuberculosis.—By means of the physical signs and characteristic range of temperature.

From Acute Bright's Disease.—By means of the presence or absence of casts and other symptoms marking this affection.

TREATMENT.—In considering the treatment of this affection our object is primarily to increase the amount of hæmoglobin contained in the blood. When the patient is the victim of inherited disease, syphilis or tuberculosis, medication appropriate to the systemic poison, together with the best possible hygienic conditions—fresh air, abundance of fatty food and expressed beef-juice (the nearest approach to the administration of hæmoglobin at our command), and regular exercise, preferably in the open air—will be of benefit. About the only two drugs which seem to be of efficacy in the treatment of anæmia in young children are iron and arsenic.

Iron.—The blood of man contains about one part of iron to two hundred and fifty parts of red blood-globules. In health a mixed diet contains sufficient iron for all purposes; but when the percentage of hæmoglobin falls below the normal amount, experience proves that the exhibition of iron in many cases promptly arrests this fall and restores the normal balance.

Forchheimer[2] insists upon the intestinal tract as the principal place of origin of the hæmoglobin, and believes that, excluding the origin of anæmias, the reduction of hæmoglobin is due to either diminished formation, excessive destruction, or both. Therefore he treats all cases of simple anæmia, characterized, of course, by a lessening of the amount of hæmoglobin, by intestinal antiseptics. I believe that anæmias of intestinal origin, such as undoubtedly exist, may ration-

[1] Uric Acid, p. 218.
[2] Transactions of the American Pediatric Society, 1892.

[1] Annals of Universal Medical Science, 1890, vol. ii., pp. E. 12.
[2] Anæmia in Children. Transactions of the Pediatric Society, vol. v.

ally be treated on this principle, but only those. The same observer believes that the good effect obtained by the employment of iron in anæmia is partly due to its ability to prevent the formation of albuminous products not compatible with hæmoglobin formation. Be this as it may, the good effects produced in the treatment of anæmia with iron is too old a story to repeat, except to emphasize the fact of its value with a word of caution against its abuse. I believe that the best effects are obtained by the administration of small doses, for in this way it acts in the double capacity as a stomachic tonic and a blood reconstructive. In large doses it quickly exhausts the gastric glands by overstimulation, and it is then, of necessity, discontinued.

Arsenic, in combination with iron or alone, in proportionately larger doses than adults will bear, is of great importance, and especially useful in chronic cases. It acts by increasing the appetite, promoting digestion, and improving the body nutrition. In the anæmia of the uric-acid condition—which is, although of frequent occurrence in young children, commonly overlooked, and which may have resisted iron given in the usual way for a long time—brilliant results will sometimes be obtained by the administration of the salicylate of soda.

Caillé[1] has published statistics regarding the value of the employment of inhalations of nascent ozone in the anæmia of children, which he deems considerable. I have used oxygen in a number of cases, and believe that it has been of service. Exercise in the open air, regularly, is probably equal in value with either. The treatment is therefore thus summed up: Relieve, if possible, the constitutional cause of the anæmia; in addition, give iron and arsenic sparingly, in tonic doses, plenty of good nutritious food, and systematic exercise in the open air.

56 West Fifty-sixth Street.

OBSERVATION ON THE PRESENT EPIDEMIC OF GRIPPE.

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It is interesting to look back over the annual visitations of grippe since its first appearance in 1889, and to observe the changes of type that have occurred from year to year. At first, the respiratory conditions prevailed almost exclusively, but presently an abdominal form became frequent, and ere long cases were observed in which the nervous system seemed to bear the brunt of the attack. Before the close of the second epidemic these several types—respiratory, abdominal, and nervous—were pretty generally recognized, and were sufficiently distinct to serve roughly as a basis of classification. By the third year the severity of the disease had greatly abated and the types became less characteristic. But each year there has been some peculiarity which, though not entirely new, has assumed especial prominence.

During the latter part of last year's epidemic, a purely tracheal cough became a leading feature in a large share of the cases under my observation. This cough was very persistent, and continued after all the other symptoms had subsided. The irritation by which it was provoked was not, however, very severe; it simply excited the dry, teasing cough, which was the only thing the patient complained of.

This year the same cough is present, but in addition to it there is a positive sense of soreness and discomfort in the trachea. It is often described as a burning or a pricking sensation which is not relieved by coughing, unless the cough results in expectoration, when the irritation will subside for a brief period. It seems to the patient as if the mucous membrane were dry, and as if this condition were relieved when the surface was moistened by the mucus coughed up. This has been verified in a number of these cases by my associate, Dr. W. F. Chappell, who has found, by laryngoscopic examination, that the tracheal mucous membrane was dry and of a deep-red color, and the follicles on the posterior wall were enlarged and prominent.

Another peculiarity, more marked this year than I have seen it before, is the occurrence of subnormal temperature after the subsidence of the febrile stage. This I have observed in a large proportion of the cases under my care. It is often well marked when the previous increase of temperature has not been great, and when the constitutional disturbance has not seemed to be sufficient to account for it. It is not due to the use of antipyretics, for it occurs in cases in which they have not been given, or after their use has been suspended for several days. It suggests the possibility of a production of secondary toxic material having an action upon the heat-centres directly opposite to that of the poison which was present at the beginning of the attack. This subnormal temperature may persist for a week or more, during which time there is no other evidence of disease, unless it be a feeling of lassitude, with more or less mental depression, and perhaps an excessive amount of phosphates in the urine.

Otitis media, with or without rupture of the drum-membrane, seems to me to be much more frequent than in former epidemics.

In regard to treatment, the use of some one of the coal-tar antipyretics during the first stage, to relieve the pain, still seems to hold its place. I have tried to guard against the depressing effects of these agents and to check their tendency to produce excessive sweating; the first, by employing only moderate doses and by adding a little camphor; the second, by the further addition of atropia. A convenient pill is composed of three and a half grains of phenacetin, one-half grain of camphor, and $\frac{1}{800}$ of a grain of atropia sulphate. Two of these pills may be given at the outset, followed by one every three hours until the temperature falls and the pain is relieved.

For the subsequent annoying cough the temptation to prescribe opiates is very great. But they add to the dryness of the tracheal and laryngeal surfaces, and if continued, seem to retard rather than to promote recovery. It is better to employ them only when demanded to procure necessary rest. For this purpose Tully's powder does extremely well. The bromides, by allaying reflex irritability, are very useful. The ammonium bromide, being largely excreted through the lungs, exerts a more decided local influence, and it is at the same time less depressing than the other forms. Yerba santa has done me good service, especially in combination with maltine, for which hot milk is an excellent vehicle.

The mucous surface of the larynx and trachea may be treated locally with advantage by inhalation of warm vapor containing a small amount of carbolic acid. The vapor relieves the dryness of the membrane, while the acid exerts its peculiar anæsthetic effect. Conium also is useful, employed in this way. Maw's inhaler is the simplest and most convenient apparatus for this form of inhalation. A spray of carbolic acid in albolene oil will sometimes produce a more lasting effect than a preparation with water as a menstruum.

When the symptoms of toxic infection persist day after day, I think I have derived distinct advantage from diuretics, reference being had to the condition of the urine in the selection of the agent employed.

If the temperature is subnormal, and especially if phosphaturia be present, I find the mineral acids, with nux vomica, of great service.

The importance of avoiding exposure during convalescence cannot be too strenuously enforced. In every case in which serious complications have arisen under

[1] Transactions of the American Pediatric Society, 1892.

my observation, they were due to lack of care in this respect. Too great haste to resume business or pleasure-seeking is responsible for most of the fatality of the grippe.

VAGINAL HYSTERECTOMY AND OÖPHORECTOMY AFTER SYMPHYSEOTOMY.

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In the MEDICAL RECORD for November 10, 1894, I reported the case of a woman upon whom I had performed symphyseotomy, successfully delivering her of a child weighing ten and three-quarter pounds. I stated that I had seen her two months later and found that she had a waddling gait and a constant pain in the pelvis, which she referred to the three pelvic joints. At the time I could not account for that condition, since there was no mobility in the symphysis, and since the ilio-sacral joints did not show any tenderness. Later developments have revealed the cause of those symptoms, and through a secondary operation the patient has been entirely cured.

In the beginning of December, 1894, the pelvic pain increased so much that she could no longer walk at all. On examination I found an inflammatory swelling in the pelvis of the size of two fists. I made an exploratory transverse incision in the posterior vault of the vagina, large enough to introduce the middle and index-fingers. This revealed a dark swelling covered by the peritoneum. When I seized this mass with a tenaculum forceps, a serous fluid spurted out. I cut into it, and palpated the whole pelvic cavity. On the left side there was found the enlarged ovary which had been felt when she left St. Mark's Hospital, at the end of July. The ovary was five or six times larger than normal, and in a condition of small cystic degeneration. It was very easily drawn down and inspected in the vagina, together with the almost normal tube. Both organs were included in a catgut ligature and removed. On the right side there were felt a finger-thick tube and an ovary of the size of a duck's egg. They were matted together and adherent all over. Guided by the sense of touch alone, the adhesions could be loosened sufficiently to allow me also to pull the appendages of this side down through the opening in the vagina. The ovary being squeezed in a Nélaton cyst-forceps, gave exit to a cheesy mass and to hairs, showing that we had to deal with a dermoid cyst. The appendages of this side were ligated and cut off as those of the other side.

The uterus being considerably enlarged and the patient being annoyed by a cystocele, I next removed the uterus. The incision behind the uterus was continued in front of it, passing about half an inch above the end of the vaginal portion.

The bladder was separated from the uterus with closed, blunt scissors and Thomas's spoon-saw.

The broad ligaments were drawn down by means of a ligature carried over them with Hunter's projecting needle, and seized in clamps. Eight clamps in all were required; besides that it was found necessary to stitch the peritoneum to the mucous membrane of the vagina behind in order to check all hemorrhage.

The omentum and intestine appeared in the opening left in the vagina. They were replaced and a Miculicz iodoform-gauze tampon applied.

The forceps were removed forty-eight hours after the operation. The tampon was removed gradually on three consecutive days. When the last part was removed the omentum came along, but was easily replaced and held up with a strip of iodoform gauze packed very loosely in the wound and changed every day.

The first few days the patient had some fever, the temperature reaching 102° F. On the fifth day it became normal, and remained so afterward.

All pain disappeared on the same day, and the patient was put on full diet. From the end of the first week, vaginal injections with a one per cent. emulsion of creolin were given three times a day. The patient left the bed at the end of the second week; the wound was healed at the end of the fourth. She feels perfectly well and her gait has become entirely normal.

In reporting this case as a sequel to the writer's previous report of the symphyseotomy, he wishes at the same time to call attention to the great value of the exploratory incision in the vagina.

Of late years there is a gradually extending tendency among gynecologists to revert to vaginal operations in many cases which, for the last twenty years, have been treated by laparotomy. The often unsightly scar left on the abdomen; the necessity of wearing a bandage, for which some patients cannot afford to pay; the frequency of subsequent umbilical hernia; the frequently persisting pain after removal of the appendages; the smaller mortality in the severe cases; are strong arguments in favor of the vaginal method.

On the other hand, to begin the operation by removing the uterus, and then take the appendages away, if possible, but to leave them if they cannot be removed, which is often rendered particularly difficult or impossible by the presence of a more or less large number of forceps—according to Péan, who has introduced the method, at least four—that would seem to be rather irrational in cases in which the chief affections are found in the appendages.

By making a transverse opening in the vagina behind the uterus, one can explore the whole pelvic cavity. If not bound down with too strong adhesions, the appendages can even be brought to view. The surgeon can then act according to circumstances, removing one set of appendages or both, or extirpating the uterus besides.

If the surgeon finds that the removal of the diseased organs would be easier by the abdominal method, nothng is lost. He has only beforehand made a good opening for drainage, which he often has to make at the end of his abdominal operation, and which it is much easier to make from below upward than from above downward.

THE COMBINED VERSUS THE SIMPLE EXTRACTION OF CATARACT.[1]

A STUDY OF OVER TWO THOUSAND CASES.

By FRANK W. RING, A.M., M.D.,

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THERE seems to be among ophthalmic surgeons a wide diversity of opinion in regard to the superiority of the simple over the combined extraction of cataract. It is for the purpose of convincing the unprejudiced mind that I have tabulated the following results, after much research and many hours of careful work. In order to make a fair comparison between any two methods the element of "personal equation" must be eliminated. To publish one thousand cases from the note-books of any one surgeon would not necessarily prove much, unless the results were in marked contrast. He might be especially expert in that one particular, so superior in manual dexterity and judgment that the average man could not compete with him. Therefore, when I select the results of so large a number of experienced operators I eliminate what I call the "personal equation." As guardians of the public vision, if I may be allowed to use the expression, it is our duty to take advantage of the experience of others, to equip ourselves as thoroughly as possible for our work, to use all possible care, skill, and judgment. In restoring sight to the

[1] Read before the New York Academy of Medicine, Ophthalmic Section, November, 1894.

blind we not only give joy to the recipient, but add prosperity and pleasure to his immediate family and friends, and oftentimes relieve the community of a burden, as every eye has its money value, especially to the State. These observations and comparisons are made from the published results and indications of the following gentlemen: Doctors Agnew, Knapp, Noyes, C. S. Bull, Webster, Gruening, Weeks, Hasket Derby, Panas, de Wecker, Galezowski, Schweigger, Schoeler, Pomeroy, Kerschbaumer, and others, names which are guarantee of good work. The following table comprises the salient points in 1,032 extractions after the combined method (with iridectomy), and 1,123 after the simple method (without iridectomy). 52.5 per cent. were male patients with an average age of 62.2; 47.5 per cent. female, average age 59.5.

COMBINED EXTRACTION.—1,032 CASES.

Operator.	Number of Cases.	Prolapse of Vitreous. Per cent.	Average Vision with Prolapse.	Incarceration of Iris. Per cent.	Prolapse of Iris. Per cent.	Iritis. Per cent.	Suppuration. Per cent.	Discission. Per cent.	Perfect Successes. Per cent.	Partial Successes. Per cent.	Failures. Per cent.	Average Vision.
Knapp	300	9.00	0.15	6.7	.....	7.6	3.70	37.0	89.0	5.3	5.7	0.37
Agnew	100	5.00	0.22	4.0	....	16.0	2.00	36.0	93.0	2.0	5.0	0.34
Webster	100	7.00	0.40	2 0	.....	10.0	3.00	22.0	81.0	9.0	10.0	0.28
H. Derby	100	9.00	0.24	....	.....	19.0	1.00	19.0	89.0	10.0	1.0	0.30
Schoeler	232	6.40	0.02	....	.....	.....	1.29	17.7	86.0	11.4	2.6	0.38
Kerschbaumer	200	7.00	0.35	6.5	....	.....	0.05	34.0	90.5	7.0	2.5	0.35
Average	....	7.23	0.23	4.82	.....	13.15	1 91	27.61	88.08	7.45	4.47	0.34

SIMPLE EXTRACTION.—1,123 CASES.

Operator.	Number of Cases.	Prolapse of Vitreous. Per cent.	Average Vision with Prolapse.	Incarceration of Iris. Per cent.	Prolapse of Iris. Per cent.	Iritis. Per cent.	Suppuration. Per cent.	Discission. Per cent.	Perfect Successes. Per cent.	Partial Successes. Per cent.	Failures. Per cent.	Average Vision.
Knapp	300	3.70	0.35	4.0	8.0	11.3	0.33	60.0	96.3	2.7	1.0	0.53
Webster	100	5.00	0.20	....	11.0	18.0	1.00	26.0	91.0	4.0	5.0	0.59
N. Y. Eye and Ear Infirmary.	71	6.80	0.35	....	6.8	12.0	....	22.0	98.6	.....	1.4	0.55
Schoeler	317	2.84	0.28	....	6.3	....	1.89	24.2	83.0	13.9	3.1	0.37
Manhattan	100	3.00	0.23	....	12.0	6.0	2.00	33.0	97.0	1.0	2.0	0.44
Schweigger	235	....	....	...	7.9	.....	2.60	.....	79.0	16.2	4.8	0.42
Average (simple)	....	4.27	0.29	4.00	8.66	11.82	1.30	33.04	90.82	6.3	2.88	0.48
Average (combin'd)	....	7.23	0.23	4.82	.....	13.15	1.91	27.61	88.08	7.45	4.47	0 34

These cases have been selected from published reports. I have therefore not deemed it necessary to ask permission of the surgeons for my compilations, but have done them the justice of using extreme care in my work. I would like to call especial attention to one thousand extractions done by Drs. Knapp, Agnew, and Webster, as each individual case was reported. Those by Dr. Knapp were published in the *Archives*, and include his sixth, seventh, and eighth hundred Graefe's, and his first, second, and third hundred simple extractions, selections which in point of fact favor the combined method, as his first three hundred simple are inferior to his later ones. The one hundred Graefe by Dr. Agnew were the last he ever did. The Manhattan series were done by Drs. Webster, Pomeroy, and Ring. In the simple extraction of these one thousand cases we have 3.1 per cent. less loss of vitreous; 0.6 per cent. less iritis; 1.8 per cent. less suppuration; 10.3 per cent. prolapse of iris; with only 2.6 per cent. failures, and an average vision of $\frac{69}{100}$, an increase of $\frac{20}{100}$; with perfect successes at 95 per cent., instead of 87.7 per cent. as in the five hundred Graefe. Dr. Knapp's three hundred simple, Webster's one hundred simple, the New York Eye and Ear Infirmary seventy-one simple, and Hasket Derby's one hundred Graefe are choice bits of surgical work. Webster, with a loss of 5 per cent. and 26 per cent. discission, the New York Eye and Ear, with a loss of 1.4 per cent. and only 22 per cent. discission, have a higher average vision than the three hundred cases with 60 per cent. discission and 1 per cent. loss. Dr. Knapp asserts, and with good reason, that he has little or no iritis with the peripheric capsulotomy, but in order to raise his vision he subjects 60 per cent. of his patients to a secondary operation, and one not without danger, as he himself asserts, and also one requiring great tact and judgment. The opponents of the simple extraction offer as a serious objection the decided increase over the combined method in discissions. Webster, with a central T-shaped capsulotomy and a loss of 5 per cent., had in 100 simples 12 patients with $\frac{2}{10}$, 13 with $\frac{2}{10}$, 18 with $\frac{2}{10}$, 14 with $\frac{2}{10}$, 11 with $\frac{2}{10}$, 12 with $\frac{2}{10}$, 4 with $\frac{2}{100}$, and 7 with $\frac{20}{100}$.

I am sure Dr. Knapp with his vast experience feels justified in continuing his peripheric capsulotomy, and in his later operations the average vision may be raised above the series in question. We are all aware that a secondary operation increases the vision to a marked extent. In his third series the average vision in 53 cases was $\frac{81}{100}$; after discission it was $\frac{67}{100}$, but in a number of his cases which had iritis I found the average vision to be $\frac{2}{10}$. Webster, with 18 per cent. iritis and 26 per cent. discission, had $\frac{69}{100}$ average vision, showing that a large percentage of iritis does not materially lower the ultimate visual result.

In the second half of the 1,000 Graefe I have selected the best results obtainable in large series; 100 by Hasket Derby, 232 by Schoeler, and 200 by Kerschbaumer. In the second half of the simple series there are 71 by the New York Eye and Ear Infirmary, 235 by Schweigger, 317 by Schoeler. The average results of the entire number of cases cited (2,115) are surprisingly similar to the 1,000 cases already alluded to.

Advantages of the Simple Extraction. — It is only necessary to prove by statistics that the results are equal, or nearly so, to establish its superiority over a method which mutilates and more or less disfigures the most pleasing feature of the face. Let us observe from the preceding statistics what the advantages are: Less loss of vitreous by 3 per cent. I have given the average vision with loss of vitreous for the benefit of those surgeons who maintain that "a loss of vitreous does not matter much anyway." It does matter a great deal, the vision is $\frac{80}{100}$ less, besides the danger of detachment of retina later on. Less iritis by 1.33 per cent. Less suppuration by 0.61 per cent.—a great gain, when you take into consideration the small percentage by loss in either method. Less total failures by 1.59 per cent. More perfect successes by 2.8 per cent. Greater average vision by $\frac{14}{100}$; less occurrence of plastic iritis; less frequent incarceration of foreign matter in the wound; no mutilation of the eye; a less strong lens required by from two to three dioptrics. The eccentric vision and orientation are much better, which is a great comfort and safety to the patient (Noyes). No hemorrhage into the anterior chamber.

Prolapse of the Iris.—The *bête noir* of the simple extraction, against which we place in the combined method mutilation of the iris and incarceration of foreign matter in the wound. We do have prolapse of iris in the combined method, and yet in the 1,032 cases no mention was made of it. I am sure it must have existed. In some of the series incarceration of iris was not mentioned. I doubt if a hundred consecutive Graefe's was ever done without a single incarceration. So we really cannot draw a fair comparison between the prolapses in the simple and the incarcerations in the combined method. However, from the data which I have presented the prolapses exceed the incarcerations by 3.84 per cent.

Cause of Prolapse.—I think I may safely say it is most frequently of traumatic origin; self-inflicted, consciously or unconsciously. It may be due to violent straining at stool. The larger the section the more lia-

bility to prolapse. The more peripheric the section the greater danger of prolapse. The roller bandage too tightly applied ; a downward inclination of the eye after expulsion of the lens.

Prevention of Prolapse.—Free the section from all foreign matter, bits of cortical, or lens capsule ; make a corneal section ; an iridectomy when indicated ; rest and quiet, especially for the first forty-eight hours, as the prolapse usually occurs within that time, rarely a few hours after the operation. If the eye is opened within two days do not allow the patient to look down. A mild iritis is rather inclined to prevent a prolapse by its adhesions. Eserine half to one grain to the ounce, applied immediately after the operation, or pilocarpine, two per cent. solution, tends to contract the iris. There is a diversity of opinion in regard to eserine. We have had better results and less prolapse from its use at the Manhattan. Eugene Smith gives a hypodermic injection of morphia after operating, followed by another in eight hours. De Wecker recommends that after simple extraction the anterior chamber be syringed with a solution of eserine.

Preparation of Patient.—Attention should be given to the following conditions : disease of the urinary organs, alcoholism, diabetes, and uric acid dyscrasia, syphilis, chronic suppuration, and articular rheumatism. The patient should certainly be required to enter the hospital a day previous to the operation, in order to get accustomed to his surroundings and relieve his mind of that nervousness and fear which elderly people are liable to have under the circumstances. I have the nurse wash the face with soap and water, cleanse the lids with a solution of bichloride, apply bichloride vaseline, and bandage the eye the night previous to the operation.

Indications for Iridectomy.—Swollen lens ; complications ; danger of prolapse of iris from pressure of vitreous ; in the debilitated ; iritic adhesions ; atrophy of iris ; after the section when a traumatic iridectomy has been done, or the iris bruised or cannot be replaced ; after prolapse of vitreous ; small corneal section ; fluidity of vitreous, and immature cataract. Notwithstanding all these indications it is exceptional when an experienced surgeon will feel disposed to make an iridectomy.

Section.—The peripheric linear section cannot be made in the simple extraction, it tends to prolapse of the iris and iridocyelitis ; therefore it is necessary to go nearer the apex of the cornea, away from the ciliary processes ; consequently it must be made larger in order to admit of the escape of the lens by the iris without bruising it too much. Noyes includes in his section nearly half of the cornea for this very reason. C. S. Bull makes his section entirely in the clear cornea, and rarely ever has a prolapse. Galezowski reports one prolapse in two hundred cases. A corneal section heals slowly and is liable to leave a grooving ; a too large section invites prolapse. I think the circular-marginal of de Wecker advisable. Panas makes the puncture and counter-puncture in the limbus (1886).

Dr. Gruening has made a large number of recent simple extractions without any prolapse of the iris, which he attributes to the fact of having used a ten per cent. solution of cocaine immediately after the operation, probably from the hypotynus which it produces ; and yet we have eminent authority assuring us that cocaine retards the union of the wound. However, we can sacrifice a speedy healing of the section to a freedom from prolapse of iris.

In making the section, pass the knife slowly across the anterior chamber until the point just approaches the limbus, when you depress the handle and make the counter-puncture, immediately proceeding quickly until you get well by the pupillary margin of the iris ; then make your departure slowly. I see no need of rushing quickly across the anterior chamber and making a counter-puncture at haphazard ; very little or no aqueous is lost until you begin the incision ; then by a quick movement, cutting with the heel of the knife as you draw it toward the temple, a traumatic iridectomy will seldom happen.

Capsulotomy.—I think the T-shaped incision preferable. It seems to me the peripheric capsulotomy retards the expulsion of the lens, makes it more difficult to clear the anterior chamber of cortical, and tends to greater danger of loss of vitreous, besides increasing the secondary operations. In expulsion of the lens make your pressure from the lower fourth of the cornea toward the centre of the globe, which serves to tilt it by the iris with less bruising ; make a steady pressure, not intermittent; if the lens sticks a little, counter-pressure from above relieves it from the overlapping iris. This expulsion of the lens is a delicate matter in the simple extraction, as you may get loss of vitreous. The iris usually returns to its normal position ; if not, close the lids and make gentle massage over the cornea, or if still perverse replace carefully with a thin spatular. A too liberal use of bichloride (1 to 5,000) has produced staining of the cornea (Knapp). Cocaine produces hypotynus (under tension), making it a little more difficult to expel the lens, but less liability to prolapse of iris ; it also delays the union of the corneal section proportionately to the strength of the solution and quantity used. "The cause lies in the action of the cocaine on the elasticity of the cornea, and also in the absence of lymph in the parenchyma which the cornea contains" (Mellinger). I think one drop of a four per cent. solution every five minutes up to three instillations quite sufficient. Gruening applies the same every two minutes, three instillations. Noyes is careful to turn the upper lid and apply cocaine to its surface as he very skilfully uses a strabismus hook under the lid to raise it while expelling the lens and making the toilette.

Dressing.—I have usually employed the roller bandage, but am inclined to discard it, especially in the summer. It is easily disarranged, and unless carefully applied makes too much pressure. I now use a wad of bichloride gauze and cotton adjusted with adhesive strips, over which, or any other dressing, at the Manhattan, we invariably place Ring's ocular mask, and since its introduction have undoubtedly had less cases of prolapse of iris. Exponents of the one-eyed dressing must show better results before their innovation will be considered. There seems to be a tendency in certain sections to make the extraction of cataract an office operation. Such a tendency is pernicious and should be discountenanced by all conscientious surgeons. How shall we treat prolapse of iris? Not infrequently a roller bandage will restore it. It may be abscised at the end of twenty-four hours, or it may be left for two or three weeks. The only eye I ever lost from extraction I cut a prolapse twenty-four hours after operating. It is a very unpleasant occurrence, and always causes astigmatism.

Discission is usually a safe operation under thorough asepsis, a good light, and care to cut the places of least resistance. It may be done from two to three weeks after the extraction, depending upon the condition of the eye. Not only from the statistics which I have had the honor of presenting to the Society, but from our personal experience, I think we are justified in maintaining that the simple method of extraction is by far superior to all others in the very great majority of cases. While it is a somewhat more difficult operation than that by the combined method, yet I believe any experienced surgeon will find his results proportionately greater.

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Progress of Medical Science.

Tight-lacing and Gall-stones. — According to Dr. Marchand, the relation of tight-lacing to the development of gall-stones is rendered very clear by noticing the situation of the gall-ducts in the liver deformed by tight-lacing. The furrow caused by lacing runs directly across the right lobe of the liver, as the result of which there is a tendency to atrophy of the gall-bladder. When tight-lacing has been practised to an extreme degree, an artificial fissure is formed in the liver, giving rise to what is termed the "lacing-lobe," which carries with it the gall-bladder. The constricted portion of the liver is found to be just at the point of junction of the gall-bladder with its duct. In these cases, according to the author, it is common to find the gall-bladder greatly distended, extending far beyond the border of the liver, and frequently an examination made post mortem reveals the presence of gall-stones. Stagnation of the bile is well known to be one of the most important causes of the formation of gall-stones. A change in the composition of the bile, from catarrh resulting from congestion of the mucous membrane and the thickening of the bile due to failure of the gall-bladder to completely evacuate itself, gives rise to the formation of small masses which serve as nuclei for calculi; hence anything which obstructs the free outflow of bile through the cystic duct must favor formation of gall-stones. Marchand is also of the opinion that many cases of cancer of the liver should be attributed to tight-lacing. It is only a few years since Langenbuch was obliged to open an abdomen to remove a "lacing-lobe" of the liver which had been so completely separated from the rest of the organ as to cause its death, rendering its removal necessary. In view of such facts as these, it is the duty of every physician to take special pains to warn his patients against the evil effect of this pernicious practice. Few women are conscious of the fact that they are injuring themselves by tight-lacing. But physicians generally preach to deaf ears in an audience composed largely of votaries of fashion.—*Deutsche medicinische Wochenschrift.*

The Surgical Treatment of Diffuse Septic Peritonitis. —At a recent meeting of the Royal Medical and Chirurgical Society of London (*The Lancet*), Mr. C. B. Lockwood read a paper on the "Surgical Treatment of Diffuse Septic Peritonitis," and related some successful cases. The communication began with the remark that the term "diffuse septic peritonitis" probably included several kinds of disease. In the variety referred to by him the inflammation was acute and had no definite limits; the serous membrane was smeared with lymph, which was either transparent and oil-like or collected in ashen-gray fibrinous flakes. Adhesions were absent, or very slight; the peritoneal cavity contained thin purulent fluid, which often had a fecal odor, or it might be full of gas; the intestines were distended and paralyzed, and the disease ran a rapid and fatal course. Although cases which came within this definition were numerous, surgical literature contained few records of recovery after operative intervention; authorities were quoted to support this statement, and it was said that there had hitherto been no successful case in St. Bartholomew's or the Great Northern Central Hospitals. It was proposed to include in an appendix the successful cases which others had recorded. Hitherto, Mr. Lockwood had operated upon cases of diffuse septic peritonitis more because he was afraid of overlooking a mechanical obstruction than in the hope of curing the peritonitis. A case was described to illustrate the importance of intestinal paralysis and distention in causing the fatal ending. Stress was also laid upon exhaustion and collapse as factors. In his successful cases a systematic attempt was made to meet exhaustion and collapse by stimulating the patient temporarily before the operation with strychnine and brandy, by the systematic application of warmth during the operation, and by rapid and methodical operating; and by warmth, stimulants, and nutrient enemata afterward. The organization of the operation was described, and the treatment of the distended intestines alluded to. To empty them, the gas was drawn from each coil by puncturing it with a fine trocar and cannula; the fæces were let out by an incision, which was afterward closed. The abdomen was afterward irrigated, and closed after the insertion of a drain. Two cases of diffuse septic peritonitis were described in which the treatment was successful. In the first there was a perforation of the ileum. The peritonitis was of not less than forty-eight hours' standing. In the second case the peritonitis had probably been in progress fifty-two hours. The abdomen was full of free gas, with the usual lymph and purulent fluid. The cause was thought to have been a septic inflammation of the left Fallopian tube. The patient was now convalescent, the operation having been performed more than five weeks ago. A third case was described, in which the peritonitis was diffuse but different in type. In this the recovery was mainly attributed to an accidental fecal fistula, which discharged and prevented distention and paralysis after the laparotomy.

The Kidney of Pregnancy.—Dr. Trantenroth finds that in about half the cases of pregnancy in healthy women, primiparæ or otherwise, a trifling amount of albuminuria is to be detected in the second half of pregnancy. (*The British Medical Journal.*) In a minority of cases thiss ymptom is not due to renal changes; in the majority it represents a special morbid condition, best termed "the kidney of pregnancy." As a rule this condition involves no symptoms besides changes in the kidney. Eclampsia and œdema are rare. The pregnancy kidney never changes into the kidney of any chronic form of nephritis. There is no true nephritis of pregnancy. Albuminuria is the rule during labor, especially in primiparæ, and casts (usually hyaline) are to be found in almost a third of the cases. In the albuminuria of pregnancy casts are much rarer. The albuminuria of labor is most marked during the period of dilatation, and disappears rapidly during childbed, except when there is fever. Later on, toward the second week, albuminuria usually indicates catarrh of the lower part of the urinary tract. The albuminuria of pregnancy and labor does not render chloroform dangerous. Renal disease existing before pregnancy is greatly aggravated by that condition, often ending in death of the ovum and abortion, after which the disease abates more or less. The causes of pregnancy kidney are the increase of intra-abdominal pressure, changes in the nutrition of the kidney brought about by the altered condition of the blood, and, in special cases, obstruction of the left ovarian vein which joins the left renal, and compression of the ureter by the fœtal head. The last two causes apply to the kidney of labor (*Geburtsniere*), where also septic changes from pieces of fœtal appendages play a part. The degree of the changes which make up the kidney of pregnancy depends on the resisting power of that organ in the individual patient.

Cramp and Angina Pectoris.—For more than a century following Heberden, angina pectoris has been considered by a large part, if not the majority, of the profession, as caused by a spasm of the cardiac muscle analogous to those often met in the limbs. There have been offered a number of reasons, however, why such a spasm is incomplete to account for all the phenomena of an attack of angina. Dr. F. P. Weber, in a recent communication, speaks of the ordinary angina attack (following Huchard, "Maladies du Cœur," 2d Ed., Paris, 1893) as analogous to the condition described as "claudication intermittente" by Charcot and others. (*American Journal of the Medical Sciences.*)

This latter condition was originally noted in horses, consisting of a sudden loss of power, accompanied with pain, anæsthesia of the limb affected, with sometimes rigidity. Presently this wears off, and the horse proceeds, only to have another and another attack if urged too rapidly. It has been found in these animals, that there has been a closure of some form of the vessels supplying the affected part. A similar condition has been described in man. It is believed that this lack of power is due to insufficiency of the blood-current, and that the pain is also the result of this ischæmia. Occasionally, probably from the insufficiency of the restricted blood-supply to remove useless and irritative waste products, a cramp occurs; and this may be associated with the loss of power, pain, etc. Thus, after or in great exertions the blood-supply is insufficient to keep up the tone of the exercised muscles, and a temporary uselessness occurs. Often rigidity also occurs, but not necessarily. Sometimes the cramps occur without being preceded by any marked diminution of power, etc. So in disease of the vessels resulting in gangrene, pains are sometimes felt from the lack of nutrition to the sensory nerve-endings; or even lack of power may occur, as premonitory of the oncoming gangrene. Thus it is believed that the ordinary angina, in which a loose, flaccid pulse is met, is really an instance of claudication due to the absence of sufficient blood, caused by coronary closure; the cramps which sometimes occur generally leading to a fatal termination, and the heart stopping in systole—the non-fatal attacks being unaccompanied by cramp, and only showing a lowered muscular power of the heart, together with pain.

Clinical Department.

HERNIA—STRANGULATION RELIEVED BY GASEOUS DISTENTION CURED BY PREGNANCY.

By L. L. VAN ZANDT, M.D.,

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Mrs. W——, five days sick with typhoid fever, presented symptoms of occlusion of the bowels. My attention was directed to a tumor, seemingly an abdominal hernia, situated about two to three inches laterally from the umbilicus. I made some efforts to reduce by taxis and to move the bowels, but being impressed with the gravity of strangulated hernia or other mechanical obstruction I did not waste much time with purgatives or other temporizing methods. Procuring a strong rubber-cloth bag, a relic of the sulphuretted hydrogen craze, with the necessary generator, pipes, cut-offs, etc., I, from bicarbonate of soda and an acid, filled the bag, holding probably two gallons, with carbonic acid gas. The bag was then cut off from the generator, and connected with the bowel by a rubber syringe (Davidson's pattern). Finding I could not pump the gas with the syringe, I resorted to pressure on the bag between the bed-railing and my knee. I forced the gas in as fast as the tolerance of the bowel would allow, at times checking temporarily when the patient complained. The abdomen became very tense. About the time the gas was exhausted she began to "belch wind" very freely, the nausea being entirely relieved. In due time the bowels moved, and this was the end of this trouble, though the tumor was not entirely reduced. The fever ran a mild course, the patient getting up inside of four weeks.

Mrs. W——, was at this time about three or four months pregnant. The pregnancy continued to term, when she was delivered of a fine boy. This occurred while she was on a visit in Missouri. On her return I found that the hernial tumor had entirely disappeared, the uterine globe (as I suppose), in its advance causing a traction within that caused a complete withdrawal of the omentum or intestine filling the sac and allowing the orifice to close.

In this connection I would mention that I once saw a congenital umbilical hernia in a pig cured in a somewhat similar way. The pig was about three months old when acorns began to ripen. In a very short time the tumor shrank away and never again appeared. In this case I think the stomach in distending drew on the mesentery so as to pull the contents of the tumor into the abdominal cavity, and then kept the orifice covered till it closed.

A CASE OF MULTIPLE ABSCESSES OF RIGHT LUNG WITHOUT STRICTURE OF THE BRONCHI.

By WILLIAM F. NEUMANN, M.D.,

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Herman K——, aged fifty-nine, native of Austria, hat-maker, was admitted to St. Francis Hospital, August 30, 1894. Family history was negative.

Personal history: Gonorrhœa at age of twenty-five; no history of syphilis. No rheumatic or malarial history. No marked alcoholic habit. Patient gave no history of previous lung trouble or injury to the chest.

Patient states that he had always enjoyed good health up to the time of his present illness, which began about six months ago with pain in the chest.

For the past six months patient has had periodical attacks of pain in the chest, more marked on the right side. This pain is very intense, and is described as being sharp and shooting in character, and at times running into the right shoulder and down the arm to the elbow.

There is a slight cough with scanty mucoid expectoration in the morning; no night-sweats, slight loss of flesh and strength. He has been troubled more or less with dyspnœa for many years past, but dyspnœa has increased in severity during the past six months; appetite good, bowels regular.

Patient is somewhat anæmic and emaciated. Inspection of chest shows a marked bulging on right side anteriorly, at third and fourth intercostal spaces close to the right edge of the sternum, very tender on pressure. Skin over swelling is reddened and pits on pressure.

Physical examination: There is marked dulness over the right side anteriorly, extending from the clavicle to the upper margin of the fifth rib. Posteriorly, on the right side, dulness extends from supra-spinous fossa to one-half inch below the angle of the scapula. Respiratory murmur over right chest is somewhat diminished and distant, with prolonged harsh expiratory murmur at apex. Vocal resonance and fremitus also diminished. Breathing over left side of marked emphysematous character. Heart: Apex-beat displaced to the fourth intercostal space and situated about one-half inch from left edge of the sternum. Faint inconstant systolic bruit heard at the apex. Arteries slightly thickened. August 30, 1894, short hypodermic needle introduced in third interspace close to the right edge of the sternum, but no pus was found.

Pain continued to increase in severity and necessitated the use of morphine to secure sleep. Pain in right shoulder and arm now became so severe that the slightest movement caused the patient to cry out. On September 7, 1894, a distinct area of fluctuation could be made out at the third interspace; a long aspirating-needle was introduced and one-half drachm of creamy-yellow, ill-smelling pus was obtained. Patient was immediately transferred to the surgical division. Tumor steadily increased in size, now extending from second to the fifth ribs, and pain was excruciating.

September 13, 1894, operation by Dr. F. Kammerer. Incision was made over the tumor in the third

intercostal space, about two and one-half inches in length, and about one-half pint of creamy-yellow pus evacuated. Drainage-tube was then inserted and the cavity packed with iodoform gauze. A few days later another incision was made in the fourth intercostal space and the two connected by a drainage-tube, the tube lying directly on the ribs.

A few days later an aspirating-needle was introduced posteriorly on the right side, in the eighth intercostal space, and pus found. It was now decided to exsect a portion of one or more ribs, and in this way to thoroughly drain the pleural cavity. Patient was anæsthetized and about one inch of the eighth rib was exsected, but before opening the pleural cavity a needle was introduced, and strange to say, instead of pus, a syringeful of clear straw-colored serum was obtained. As this made the diagnosis doubly doubtful, the operation was abandoned and the pleura left intact, although the rib had been exsected. Openings anteriorly were irrigated daily with Thiersch solution and packed with iodoform gauze. Patient gradually grew worse, and died on October 3, 1894.

October 4, 1894, autopsy by Dr. Hodenpyl, to whom I am indebted for the following notes: Few old adhesions over left lung. Left lung emphysematous and extending about one and a half inch to right of the median line; posterior part of lower lobe of left lung a little congested, otherwise normal. Heart, flabby; a few calcareous areas over the aortic valves. Little old thickening of the mitral valve. Right pleural cavity contains a considerable amount of pus. Lower and middle lobes of right lung converted into a series of abscess cavities with smooth walls, and containing thick pus. In addition to these there are two large cavities in the posterior part of the lower lobe, which contain fibrin and clear straw-colored fluid. Liver shows a little chronic congestion. Kidneys large and congested, one containing a small cyst. Cortex thick, markings fairly good, capsule not adherent. Dissection of the lung shows these cavities to be in communication with the bronchi. Dissection of right bronchus from bifurcation of the trachea shows no stricture. Pus contained no actinomyces or tubercle bacilli.

Diagnosis.—Multiple abscesses of right lung without stricture of the bronchi; empyema.

A CASE OF HICCOUGH.

By RALPH WAIT PARSONS, M.D.,

SING SING, N. Y.

A RATHER remarkable case of singultus came under my observation about two years ago. The patient, a dentist and a native of this State, had had melancholia for twenty years, and a few days before admission to the hospital had developed suicidal impulses. After admission, when the attendant removed the patient's shoes, it was found that the great toe of the right foot had been completely severed from its metatarso-phalangeal articulation. After this operation had been performed, the patient had replaced the severed toe in its normal apposition to the foot, and had concealed the mutilated part with his sock and shoe. He had committed this act of self-mutilation three days previous to being sent to the hospital, but during this time had evinced no signs of lameness, nor given evidence of physical suffering.

A few days after admission the patient developed an attack of singultus, which was repeated several times during the day, each attack lasting ten or fifteen minutes, the hiccough being as frequent as ten or fifteen per minute. After a time the attacks became more frequent and more prolonged, and the hiccoughs became as frequent as forty per minute. Every remedy was tried that could be thought of to relieve this distressing condition, but to no avail. Nitrite of amyl and nitroglycerine were, at first, of temporary value in controlling the attacks, but later failed to be of any service. The patient could not retain any food in the stomach, and although nutrient and stimulating enemata were administered at frequent intervals, he became rapidly exhausted and died in about thirty-six hours after the onset of the first attack of singultus.

Whether there was any connection between the surgical injury previously sustained and the attacks of singultus is, of course, difficult to decide.

A LARGE DOSE OF TINCTURE OF ARNICA.

By JOHN A. McKINNON, M.D.,

SELMA, ALA.

MR. J. W——, who has been on a debauch for the past three months, had an attack of delirium tremens, with persistent insomnia, for which he took elixir peraldehyde, which was put up in a four-ounce bottle. He had the conventional black eye, which he was very solicitous to have removed. To satisfy him the following prescription was written:

℞. Tinct. arnicæ..... fl ℥ ijss.
Ext. hamamelis..... fl ℥ iss.
M. Sig.: For external use only.

Having passed a restless night, at 4 A.M. he arose, poured out the liniment into a glass, filled the glass with water and drank it all down at one time. It was 6 A.M. before he discovered his mistake, when, becoming alarmed, he sent for me. There was nothing that could be observed about him showing any poisonous effect of the drugs, except slight exhilaration, which might be attributable to the alcohol he had taken in the liniment. His kidneys acted quite freely twelve hours after taking the drug, otherwise there has never been any other perceptible effect from it.

CASTRATION FOR HYPERTROPHY OF THE PROSTATE.

By A. T. PIERCY, M.D.,

PLACERVILLE, CAL.

PERMIT me to report the following: O. B——, aged seventy-one, came under my care late in July, 1894. His complaint was occasional retention of urine, the periods of retention becoming much more frequent of late. On attempting to pass a catheter I found the prostate immensely enlarged, and, from his efforts at urination, crowded down against the perineum and wedged between the rectum and pubic arch. So tightly was it pressed against the pubic bone that it was next to impossible to introduce a catheter. I succeeded in relieving him with a catheter, but the retention recurring in a few days, I proposed castration.

The operation was readily accepted, and on August 8th last I removed both testes. The day following he passed his urine much more readily than he had in some weeks before. The wounds healed without suppuration, I permitting him to sit in a chair and walk about his room on the third day after operation. After two weeks he had no further trouble passing urine, and on examination, October 8th, two months after castration, I found the prostate diminished at least one-half. I may add that he is highly pleased with the result of the operation.

Certainly there is a brighter prospect for the relief of aged sufferers from enlarged prostates.

New Medical Baronets.—Dr. J. Russell Reynolds and Mr. John Erichsen have been made medical baronets.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, February 23, 1895.

INSOLVENT HOSPITALS.

THE London hospitals are actually going into a condition of insolvency, or at least are closing many of their wards for want of funds.

In regard to some of these institutions the note of impecuniosity, says *The Lancet*, is pitiful. In St. Thomas's Hospital three wards are standing empty, and two others are temporarily devoted to the reception of paying patients. In the Metropolitan Hospital accounts are "overdue," and funds needed for their payment. At the Margate Infirmary 130 beds out of 220 beds are closed for want of funds. At the Middlesex Hospital last year the income from all sources (legacies included) amounted to £20,357, and the expenditure (due to repairs, etc.) to £37,184.

Thirteen of London's large hospitals are suffering from want of funds. Whole wards are closed in some of the oldest, greatest, and best hospitals. In one of the youngest a considerable proportion of the beds has been set apart for pay patients, to the exclusion, of course, of those who cannot pay and for whom this and all other hospitals were primarily built.

Now, philanthropy is not on the whole declining. There never was a time when more money or more unselfish efforts were bestowed upon the unfortunate.

Perhaps, therefore, instead of bemoaning human selfishness the managers of hospitals had better consider whether they have not made some mistakes in their work. Have they not attempted to overdo their charities? And have they been quite just to medical men upon whose services they depend, but for whose services they tender slight acknowledgment. The great hospitals of London have, it is said, been sources of abuse of medical charity and perhaps have alienated somewhat the cordial support of the medical fraternity as a whole. A similar condition of things presumably awaits us here.

DOCTORS AND FREEMASONRY.

MR. R. T. GOULD, an eminent Mason and recognized authority on masonic history, has written an elaborate article in which he, though a layman, generously tries to prove that the medical profession has distinguished itself more than any other in the service of Symbolical Masonry. He says: "I must show you, if I can, that it is by the influence of brethren who have been, or are, practitioners in medicine or surgery, more than to the members of any other single profession, that Freemasonry has been shaped and moulded into the form—or perhaps it would be best to say the system (or set of systems)—in which we now possess it."

Mr. Gould gives a long list of the prominent English physicians who were high in the masonic mysteries. Among these were Edward Jenner, Sir Erasmus Wilson, Sir William Ferguson, and Sir James Simpson. We doubt if Masonry has taken so marked a hold upon the profession of this country. Mr. Gould refers to one American, Dr. Winslow Lewis, of whom Dr. Holmes wrote:

> "You hear that man laugh? You think he's all fun,
> But the angels laugh too at the good he has done;
> The children laugh loud as they troop at his call,
> And the poor man that knows him laughs loudest of all."

SCIENTIFIC VERSUS OBSCENE MEDICAL LITERATURE.

IN the laudable aim of reforming existing abuses, it is often difficult to draw the line in such a way that none but the guilty shall be punished. Whenever any doubt obtains as to the precise intent of a proceeding having such an end in view, it sometimes happens the said doubt is on the wrong side.

This may prove to be the case in regard to the sweeping resolution offered by Dr. Jacobi, at a recent meeting of the New York Academy of Medicine, having for its ostensible purpose the endorsement of a bill to compel the payment of letter postage and the use of sealed envelopes for the transmission of medical pamphlets and circulars the contents of which are not appropriate for general or public reading. To anyone who will casually read the proposition, the course advocated would appear to be eminently proper.

There is no doubt that the distinguished gentleman refers to the obscene pamphlets which often, under the guise of scientific literature, are industriously circulated by quacks, and find their way so cheaply and frequently through the mails to the homes of innocent and unsuspecting people. So far, it does credit to the heart and head of one who is generally foremost in such matters of radical reform as tend to benefit society, and elevate the standard of the profession.

It appears to us, however, very difficult to understand how the difference can be made apparent, to post-office officials, for instance, between what is a strictly scientific pamphlet, periodical or circular, and the advertisement of an unprincipled, designing, and obscene quack. Obscenity, strictly speaking, is only a relative term which takes force from the motive or purpose actuating its commission. Thus, while from a properly scientific standpoint, with the sole intent of obtaining useful knowledge, it would be impossible to offend chastity or foul a pure mind, the contrary would be the case with the same phrases and the same illustrations used in an unchaste and suggestive way. But who shall be able to distinguish between the real and pseudo-scientific publications in which the phrases or illustrations may occur? It strikes us that this is a question of quite serious import to the great number of scientific journals that from time to time publish

what a layman would consider indecent representations of the human form divine. Even the most deaconish scientist must sometimes look bashfully askance when some of the startling living pictures of the gynecological zone are displayed between the chaste sheets of many of our most respectable contemporaries.

Such illustrations are oftentimes absolutely necessary for the proper understanding of the subject under discussion, and yet they are by no means suitable for general distribution at an afternoon tea, or public discussion at a church sociable. Even the MEDICAL RECORD, which has the enviable reputation with the public of being always decent, may not always display some of her pages in crowded street-cars, nor vaunt herself unseemingly on the drawing-room table of a family with growing children.

To the truly scientific man or woman, however, everything is pure. In fact, there can be no such thing as obscenity when true science investigates. But if, strictly speaking, the new law virtually defines obscene literature as that which is not fit for general inspection or public reading, every medical journal in the State would be dodging through the mails in sealed envelopes and be ruinously weighted with letter postage. Indeed, it would be impossible to publish and circulate scientific journals with such rates.

It strikes us, therefore, that requisite care should be taken to prevent the latter possibilities, and in our efforts to reform existing abuses, we should be on the lookout not to create new or unlooked-for possibilities of injury in other directions. It might be possible, perhaps, to make distinction in favor of regular scientific periodicals, but here again, what form of law can be competent to such an end? Sometimes, in attempting to kill the bear we may shoot our own dog.

CAUTION IN THE USE OF ANIMAL EXTRACTS.

IN a previous issue, reference was made to beneficial results having been noted, in a case where the injection of a preparation of the supra-renal capsule was used for curative purposes. We therefore consider it our duty to draw the attention of our readers to recent researches, made in England by Dr. Oliver, of Harrogate, which point to a great danger attending the use of such remedies.

We are indebted to Dr. Addison, of Guy's Hospital, London, for the first hints regarding the connection between certain diseases which always proved fatal and certain conditions discovered in the supra-renal capsule after death; but it was Brown-Séquard who first demonstrated that the total removal of these bodies had a fatal result, accompanied by an alteration in the blood which rendered that fluid poisonous to other animals.

More recently Dr. Oliver has discovered that, in both alcoholic and watery extracts of the supra-renal capsule, a most potent substance is produced.

If only as much as a grain by weight of this organ be extruded with alcohol and allowed to dry, and then be redissolved in a little water or salt solution, the most extraordinary results will follow if this fluid is injected into the blood of a dog.

It will raise the pressure of the blood within the arterial system to an enormous extent, so that, from a blood-pressure which would be sufficient to balance a column of some four inches of mercury, the pressure may rise so high as to be equal to a column of mercury of twelve or more inches. Such result being obtained by a very minute dose. As Dr. Oliver states, we have here to do with a substance as potent, although in a different direction, as strychnia.

These facts we make known in the hope that they may serve as a caution to those making use of the organs of animals in their practice, as they clearly point to the conclusion that the whole subject must be investigated further, before such remedies can be administered without the greatest caution.

News of the Week.

Cholera in Constantinople.—The cholera reports from Europe are beginning early this year. On February 8th a cablegram reported eleven cases of the disease in Constantinople, seven of which were among the Turkish troops. During the week following, there were sixty-one cases and twenty-nine deaths.

Execution by Electricity.—A bill for the execution of death sentences by electricity has been introduced in the West Virginia Legislature.

Helmholtz's Birthplace.—A tablet has been placed over the door of 8 Hoditz Street, in Potsdam, where Helmholtz was born.

Dr. F. W. Ring, assistant surgeon to the Manhattan Eye and Ear Hospital of New York, has been appointed Ophthalmic Surgeon to the Connecticut State Hospital, in New Haven.

The Late Dr. Alfred L. Loomis.—At the meeting of the New York Pathological Society, held February 13, 1895, the following resolutions on the death of Dr. Alfred L. Loomis were adopted and spread on the minutes, and the secretary requested to send a copy of the same to the New York MEDICAL RECORD and the New York *Medical Journal* for publication:

Whereas, It becomes our duty to announce the death of Dr. Alfred L. Loomis, a former President, and for a long period a cherished member, of the New York Pathological Society; therefore be it

Resolved, That this Society desires to place on record its high estimation of those qualities for faithful, persistent, and skilful work which characterized all his efforts during more than a quarter of a century of active membership.

Resolved, That his minute and painstaking study of clinical facts in connection with pathological lesions, and his logical demonstrations of their practical significance, constantly proved his eminent fitness as a safe teacher, and his high and rare qualifications as a leading authority.

Resolved, That his example of indefatigable labor in this Society, his ever-ready willingness to advance its best interests by valuable contributions from his large

experience, and his earnestness of purpose in extending its usefulness, are grateful remembrances of his unselfish ardor, of his conscientious regard of duty, and of his earnest devotion to the highest aims of pathological research.

GEORGE F. SHRADY, M.D.
EDWARD G. JANEWAY, M.D.
JOHN H. HINTON, M.D.

Death of an Eminent German Professor.—Dr. Edward Külz, Professor of Physiology at the University of Marburg, died recently at the age of fifty years. His name is best known in connection with diabetes mellitus, of which disease he was a student nearly his entire life. He was not very popular with the students at the University, as he was known as a very severe examiner; at one time, indeed, there was an open rebellion, and the students refused to attend his lectures, the intervention of the Minister of Public Instruction being required to bring about a truce. It is generally believed that Dr. Külz was for a long time the private adviser of the German Government in matters relating to medical education.

Criticising a Health Officer.—Fifty physicians of Detroit met recently and adopted resolutions severely criticising the Health Officer for having, as alleged, reported as chicken-pox cases of small-pox which had been diagnosed by competent physicians.

A Correction.—Dr. W. F. Mittendorf writes: "In the report on my paper on 'Blennorrhœa of the New-born,' read at the State Medical Society at Albany, a misprint occurred. It is not borax, but one part of boric acid to nine parts of vaseline, which I have recommended to be used in this affection. As the object of my paper was to place into the hands of the general practitioner a simple remedy which, in case the child cannot be seen or treated by a specialist, can be relied upon and yet do no harm, even if it has to be used as often as every five or ten minutes, night and day, you will do me a great favor by allowing me this explanation and correction."

Four Years' Medical Course at Yale.—The faculty of the medical department of Yale University has decided to extend the course in medicine from three to four years, and a committee consisting of Professor Smith, Dean, and Professors Carmalt and Ferris, has been appointed to perfect plans for the new course, which is to be announced during the next commencement. Good for Yale.

Important Decision in Small-pox Cases.—The General Term of the Supreme Court in Brooklyn has reversed the decision of Justice W. J. Gaynor, in the case of two small-pox patients who were isolated by the Health authorities, and discharged by Justice Gaynor on a writ of habeas corpus. This is part of the opinion of the General Term:

"These relators fell under the control of the Board of Health. They came to the city from infected places, and they were liable to communicate contagion. They were, therefore, proper subjects for isolation, and they were quarantined and detained in their premises. That isolation and detention was clearly within the scope and powers and duties of the Board, and that is all it did. The Board did not require the relators to be vaccinated, and that seems to be the error into which the relators have fallen. They seem to assume that the Board of Health intended to compel them to be vaccinated, but the acts of the Board admit of no such construction. There was neither coercion nor compulsion. The prevention of small-pox is of such paramount importance as to justify all reasonable means for its accomplishment.

"The propriety and wisdom of the course pursued by the Board is beyond criticism. Its acts have all been within the lines of statutory authority, and they have been discreet and in evident good faith, in the presence of an impending pestilential danger."

Collective Investigation upon the Serum Treatment of Diphtheria.—The editors of the *Deutsche Medicinische Wochenschrift*, Drs. Eulenberg and Schwalbe, have initiated a plan for the collective investigation of the experiences of the medical profession regarding the treatment of diphtheria by antitoxin. They point out that the results so far published from private practitioners, as well as those from hospitals, speak favorably of a method which may prove to be of the highest importance in therapeutics—a method which has impressed even the most critical, as exemplified in Professor Virchow's declaration that it is the duty of every practitioner to employ it in this disease. They say that scepticism is never more legitimate than in respect to the alleged efficacy of treatment, especially of any treatment that claims to be specific, and that diphtheria affords scope for arriving at a correct judgment upon the results of treatment; but the number of points to be determined are exceptionally numerous and involve many considerations such as can only be gathered on a large scale and over a large area. The question must embrace facts from thousands of cases collected from all sources and from all parts of the country: hence the idea to undertake a collective investigation throughout Germany similar to that pursued in influenza by the Berlin Society of Internal Medicine, on the lines originated by the British Medical Association. In this scheme they have the support of Drs. Leyden, Litten, Renvers, Heubner, Behring, Ehrlich, and Guttstadt. The cards to be filled up by practitioners can be obtained from the office of the journal. It is proposed to close the inquiry on April 1, 1895.

Theatrical Play-bills and Medical Practice.—What is the use of a law in the State of New York regulating the practice of medicine, when the theatres are allowed to publish remedies for dangerous affections. In other words, when the conductors of the advertising sheets, on which the play-bill is placed, are permitted to practise medicine without license. What we mean by this may be illustrated by the fact that one of these papers recently gave an elaborate prescription for treatment of inflammation of the eyes. This prescription was the far-famed poultice of tea-leaves, which has, to the experience of many ophthalmic surgeons, destroyed thousands of eyes. Everybody is ready to practise medicine, and in self-limited affections we may, perhaps, smile at newspaper recipes, so long as they are not dangerous, but in the present imperfect mental condition of the public, in our country at least, it is not safe to

allow advertising journals to prescribe dangerous remedies for so valuable a part of the human organism as the eyes.—*The Post-Graduate.*

Fifty Years in Practice.—A complimentary dinner was given on the night of February 12th, by the Syracuse Academy of Medicine, to Dr. Joseph P. Dunlap, of that city, in commemoration of his fiftieth year of active practice. The members were in full attendance, together with representative citizens. Appropriate addresses, dwelling on the life and character of the honored guest, were made by Drs. Mercer, Van der Warker, Bannan, Dallas, Didima, Hon. Frank Hiscock, Hon. J. J. Belden, Rev. L. M. Clarke, and Dr. Van Duyn. We are pleased to hear that Dr. Dunlap is still up to his work and in the enjoyment of good health. We extend to him on behalf of his distant friends a hearty greeting.

The Twelfth International Medical Congress.—Preparations are already in active progress in Moscow for the twelfth International Medical Congress, which is to take place in that city in 1897. The Organizing Committee includes all the professors in the Medical Faculty of the University of Moscow, under the presidency of the Curator of the Moscow Teaching Staff, Count Kapnist. A special Executive Committee, under the presidency of Dr. Klein, Professor of Morbid Anatomy, and Dean of the Medical Faculty, has been intrusted with the preliminary arrangements for the Congress.

Northwestern Ohio Medical Association.—The forty-ninth semi-annual meeting of the Northwestern Ohio Medical Association closed its session at Lima, O., December 19, 1894. The following officers were elected: *President*, Dr. J. K. Woods, Lima; *Vice-President*, Dr. Joseph Sager, Celina; *Second Vice-President*, Dr. W. E. Hoover, Lima; *Secretary*, Dr. Charles Graefer, Sandusky. The next meeting will be held at Findlay, June, 1895.

The Academy of Stomatology, of Philadelphia, a new association of dental practitioners, has been organized for the purpose of investigating and studying all matters connected with the mouth, its functions in health, and their aberrations in disease. The academy, we learn, already numbers among its members a majority of the most active and advanced dentists of Philadelphia, men who have the best interests of dentistry at heart, and who energetically forward the work of dental professional progress to the best of their ability and means. The academy has secured a handsome suite of rooms for its exclusive use in the holding of its meetings, clinics, etc. In connection with these a dental library and museum is being established, together with a reading-room, where it is proposed to keep on file all the leading dental periodicals of the world. The reading-room and museum will be open to members at all times during the day and evening, and it is expected that the facilities thus offered for consulting the periodical literature of dentistry will be largely patronized by the profession of Philadelphia and vicinity. The ultimate purpose of the academy is to establish a library and museum related to stomatology which will be consulted by dental practitioners throughout the entire country.

Reviews and Notices.

MEDICAL JURISPRUDENCE, FORENSIC MEDICINE, AND TOXICOLOGY. By R. A. WITTHAUS, A.M., M.D., Professor of Chemistry, Physics, and Hygiene in the University of the City of New York, etc., and TRACY C. BECKER, A. B., LL.B., Counsellor-at-Law, Professor of Criminal Law and Medical Jurisprudence in the University of Buffalo. With the collaboration of AUGUST BECKER, Esq.; CHARLES A. BOSTON, Esq.; W. N. BULLARD, M.D.; J. CLIFTON EDGAR, M.D.; D. S. LAMB, M.D.; W. B. OUTTEN, M.D.; Hon. WILLIAM A. POSTE; EDWARD S. WOOD, M.D.; E. V. STODDARD, M.D.; Hon. GOODWIN BROWN; J. C. CAMERON, M.D.; E. D. FISHER, M.D.; H. P. LOOMIS, M.D.; ROSWELL PARK, M.D.; IRVING C. ROSSE, M.D.; F. P. VANDENBERGH, M.D.; J. H. WOODWARD, M.D.; GEORGE WOOLSEY, M.D. Vols. I. and II. New York: William Wood & Company. 1894.

The first volume of this important publication is devoted to medical jurisprudence and forensic medicine. The legal relations of physicians and surgeons are ably set forth in an elaborate essay by Mr. Becker. This article is well worth reading, as it deals with matters often neglected by physicians to their own great detriment. The right to compensation and the legal methods of enforcing this right may be studied with equal advantage by beginners and those well advanced in practice.

The powers and duties of coroners are clearly defined in an article by Mr. A. Becker. Dr. H. P. Loomis writes on medico-legal autopsies in a concisely worded contribution. The various modes of death, personal identity, the determination of the time of death, and medico-legal considerations of wounds, are all ably handled by expert writers, whose words carry with them the weight of authority.

Altogether it appears from a careful examination of this volume that the different contributors have succeeded in placing before the profession a collection of essays that cover the entire ground of forensic medicine in an eminently satisfactory manner. The mechanical execution of the book is in keeping with the high character of its contents.

The second volume of this work is also peculiarly valuable in a practical way from many points of view, considering the variety and importance of the subjects discussed. The opening chapters, on the examination of blood and other stains, and of hair, are by Professor Wood, of Harvard, whose work, as every medical man knows, is always accurate and scholarly.

Dr. Cameron, of Montreal, contributes a valuable chapter on abortion and infanticide.

Dr. Edgar's article on pregnancy, labor, and the puerperal state, is excellent, showing evidence of thorough research and practical experience. Each section is supplemented by a list of illustrative cases. The fascinating subject of post-mortem parturition is presented in a most interesting way. The same writer is a joint author with Dr. Johnston of the admirable article on rape.

Dr. Outten's valuable monograph on railway injuries, consisting of four chapters and including one hundred and eighty pages, will be consulted with profit by all who desire thorough information on this important subject. A carefully prepared index and tables of cases cited in the text are appended.

Identification of Criminals. — England has just adopted the Bertillon system of minute anthropometric measurements for the identification of criminals, in addition to Herschell's finger-print system, which Mr. Francis Galton has made generally known.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, December 7, 1894.

H. F. WALKER, M.D., PRESIDENT, IN THE CHAIR.

Note on the Causes and Premonitions of Apoplexy, from Analysis of One Hundred and Eighty Cases.—DR. C. L. DANA read the paper (see p. 225).

DR. ABBE had been interested in the statement that often just before an apoplectic attack patients felt in the best possible condition. He recalled two cases of fatal apoplexy in old people, whose families had remarked upon their bright, active condition the day of the stroke.

DR. H. M. BIGGS had understood the author to say that in his opinion most syphilitic cases of apoplexy were due to cerebral softening. In his own experience with these cases there had been complete recovery, and he had not been satisfied as to what was the cause of the hemiplegia. If it was due to softening, it did not seem that there could be complete recovery. During the past year he had seen a number of cases of that type; in several of them the hemiplegia persisted three or four months, was accompanied at first by coma, then a stuporous condition, but eventually there had been complete recovery. He repeated, that if the cause were softening, one would not expect complete recovery.

DR. J. D. BRYANT inquired whether the percentages given related only to the total number of deaths, or to the number of living. If to the latter, inferences based upon the statistics would be more reliable.

DR. DANA, in reply, repeated some of the facts contained in the paper.

DR. BRYANT mentioned a case recently seen, of an elderly lady who awoke one morning, complaining that she could not swallow and of a slight sensation of strangulation. Examination twenty-four hours afterward showed partial hemiplegia or paresis of the entire side. She had since recovered to a considerable degree, and at present was able to use the hand freely. There was no history of thrombus, embolus, or dreams the night of the stroke.

Tobacco and Apoplexy.—DR. W. M. POLK wished to know more about the case in which tobacco had seemed to cause the apoplexy. Was it by direct effect of the nicotine, or by inducing, for instance, the uric-acid diathesis? His own impression had been that persons who, on account of faulty assimilation, formed a good deal of uric acid, were more prone to apoplexy than others. There were a good many people in whom the use of tobacco favored such faulty assimilation.

DR. DANA replied that personally he did not think tobacco predisposed to apoplexy in any way. One reason for this belief was the fact that apoplexy of various kinds occurred nearly as frequently in women as in men, and the slight difference might be explained by the greater frequency of syphilis and alcoholism in men. Tobacco tended to lower the arterial tone and perhaps to prevent rather than favor arterial sclerosis and apoplexy. He had quoted the two cases in his paper only because the patients themselves had laid stress on their excessive indulgence in tobacco while other causes were not apparent.

DR. ROBINSON inquired of the author whether in the cases of syphilis the initial lesion had, as a rule, been followed by other syphilitic manifestations? Was apoplexy more likely to occur in syphilitics with further manifestations of the disease than the initial sore alone?

DR. DANA replied that the cases in which he had attributed the trouble to syphilis there was a distinct history of syphilitis infection, followed by subsequent manifestations of the disease, including the prodromal symptoms of syphilitic hemiplegia. In looking over his records he had been rather surprised to find how frequently syphilis was the cause.

DR. ANDREW H. SMITH asked on what basis Dr. Dana had distinguished between cases of hemorrhage and of embolism, except that of cardiac disease and vascular sclerosis.

DR. DANA replied that in eighty cases the diagnosis was based on autopsy. These showed that in syphilitic cases the condition was so uniformly one of blocking of the arteries and softening that it could be safely inferred the same condition existed in the living patients presenting hemiplegia with a distinct syphilitic history, including headache, etc. He asked Dr. Delafield if his experience had been similar.

A Question of Arterial Degeneration.—DR. DELAFIELD thought differences of opinion were apt to depend upon different ways of taking up the subject. Dr. Dana had taken up the subject from the point of view of apoplexy; but, after all, the real study was that of inflammation of arteries. What the author apparently meant by apoplexy was that the person was hemiplegic, and if a person was hemiplegic it meant either that a diseased artery had ruptured, or had become obstructed, or in some way interfered with the circulation for a longer or shorter time. It had always seemed to him that the weak point in the study of apoplexy was as a cerebral lesion, while the real study should be that of inflammation of arteries.

DR. DANA remarked that Dr. Delafield spoke from the stand-point of the pathologist, while his own experience had been as a teacher. In order to make students understand the question it seemed necessary to speak clinically. Practising physicians followed one better and understood him better when he spoke from that stand-point.

DR. DELAFIELD thought that was simply keeping them in the paths of ignorance.

DR. DANA remarked that to take up the subject of arterial inflammation would require one to go over about a third of the entire field of medicine.

DR. A. H. SMITH asked how about cases in which an embolus was carried into a healthy artery.

DR. DELAFIELD said of course that occurs, but it is seldom.

THE PRESIDENT mentioned a case of hemiplegia coming on, some years ago, three days after confinement. Before confinement the urine had been normal, but at the time of confinement it contained albumin and casts, which disappeared afterward.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, December 27, 1894.

MALCOLM MCLEAN, M.D., CHAIRMAN.

Hysterectomy after Removal of Uterine Adnexa.—DR. H. C. COE, in presenting a specimen, said he had once taken ground with many others against those who had advocated removal of the uterus in nearly all cases where it was necessary to take out the adnexa. Lately, however, he was rapidly becoming converted to the view of the other side. The uterus shown was from a patient who some months before had had both ovaries removed. Relief was not obtained, and lately she had been bleeding profusely. The uterus was felt to be large and heavy, and a tumor was present at one side. He removed the uterus and tumor through the vagina according to the new method. The tumor proved to be a cyst of the left broad ligament the size of an orange.

This was only one of a number of cases in which patients had to come to him with a similar condition fol-

lowing successful removal of the uterine adnexa, and while he had once wondered why they should have such persistent pains and other nervous symptoms, he was now coming to the opinion that it was because of allowing the uterus to remain.

Dr. Vineberg related a similar experience, the case of a woman in whom the appendages had been removed at two operations, but pain and hemorrhage continued, compelling him to do hysterectomy. The uterus was large and heavy, in a condition of fibrosis or areolar hyperplasia, and a small mass existed at one side. He thought it was another case in which it would have been better to remove uterus as well as adnexa in the first instance.

Dr. Jarman, who had first seen Dr. Coe's patient at the clinic from whence she was referred to him for operation, made some remarks upon the extreme hemorrhage and difficulty of controlling it. Greatest benefit had come from placing an ice-bag over the spine in the lumbar region, as had also been true of some other cases of uterine hemorrhage.

Dr. Coe said this was the fourth case in which he had found cyst of the broad ligament follow removal of the tubes and ovaries, and he thought it was due in some way to ligation of the vessels.

Ectopic Prognancy.—Dr. Vineberg presented what appeared like a uterine mole, but which was the tumor of tubal pregnancy removed some weeks after the first symptoms of rupture. Old and fresh blood-clots were found; doubtless marking recurring pains and fainting spells, although the severity of these had not, the speaker thought, depended so much upon the amount of hemorrhage as upon the shock. For comparison Dr. Vineberg also presented a fleshy mole of the uterus from a woman who had had uterine hemorrhages for two or three months, then had gone an equal length of time without, then expelled the tumor which contained a small fœtus.

Free Hemorrhage and Hemorrhage into a Præformed Cavity.—Dr. Coe thought there was a difference in the virulence of the symptoms in cases of ruptured ectopic pregnancy according to whether the hemorrhage was free or whether it took place into a præformed cavity. Where the hemorrhage was into a cavity which had previously been formed by adhesions the symptoms were less severe. The extremely serious nature of the other class of cases, those in which hemorrhage was free into the broad ligament or peritoneal cavity, was shown by a case operated upon by him that afternoon. The woman had been quite well, and was struck down in the theatre as suddenly as if shot. He operated some four hours afterward and found hemorrhage continuing. Decidual membrane was removed, but the fœtus was not found.

The Chairman inquired whether any of the members had met with a case of rupture of tubal pregnancy in which there had not been irregular menstrual flow. Personally he regarded absence of history of irregular uterine flow as evidence that the case was not one of ectopic pregnancy, although, like in a case of his own, there might be a tumor and other signs pointing that way.

Dr. Collyer related a case of tubal pregnancy with rupture in which the uterine end of the tube was not at all distended, showing that it would have been impossible for it to have become a uterine pregnancy.

Uterine Irrigation Tube.—Dr. E. A. Tucker showed a tube which he had devised for use in irrigating the uterus and vagina. It had been constructed especially to secure return flow, a requisite which he had found was not satisfactorily met by other single or double irrigators. It consisted of two glass tubes united so as to form but one at each end. The uterine extremity had side perforations, but no opening at the end, so that the injection could not be forced into the Fallopian tubes. The fluid returned outside the tube along the space between the double portion, which could not be occluded by contraction of the cervix.

Studies in Pelves, Pelvimetors, and Pelvimetry.—Dr. Philander A. Harris, of Paterson, read the paper. There was a small percentage of women, one or two in a thousand, who had a pelvis so small, flattened, or otherwise distorted as to make it impossible for a child of average size to be born alive in the natural way. In addition to this small group there was a much larger one, represented by one woman in fifty or a hundred, whose pelvis was sufficiently contracted in some way or other to embarrass parturition or even endanger the life of mother and child. Almost all pelves which presented osseous impediment could be discovered by external pelvimetry. Inability to find a pelvimeter which might be easily carried about had led Dr. Harris to devise one which combined the qualities of spanning, compactness, and lightness. In order to compare it with others he showed the contour line of the pelvis of a stout woman, life-size, on card-boards, and outlined the various pelvimeters of his collection on the card-boards, the points of the instrument being placed where required to take the external conjugate. The reader showed that the pelvimeters of Byford, Baudelocque, Davis, Collyer, and his own had ample spanning capacity. The latter two occupied about the same space, could easily be carried in the pocket, and could be purchased much cheaper than other instruments.

The author also demonstrated a chart marked "Pelves of normal conformation," designed as a reference table to show, first, the relations which the following measurements bore to one another in pelves of varying size and of normal anatomical conformation; and, further, the relations which such measurements bore to the internal conjugate and to the transverse diameter at the brim. 1. The greatest distance between the iliac crests at their external margins. 2. The distance between the external margins of the anterior-superior spinous processes. 3. The so-called external conjugate.

With these three measurements given, the reader maintained that an appreciation of the relative internal measurements of normal pelves of varying sizes could be had. For instance, an inter-crest measurement of 24 ctm. in a pelvis of normal conformation should have an inter-iliac spinous measurement of 22.2 ctm., and an external conjugate of about 16.5 ctm. Such a pelvis should have an internal conjugate of about 9.5 ctm., and a transverse diameter at brim of 11.1 ctm. Deductions were made for obesity.

Where there was marked deviation from the chart of external measurements we could look for more or less internal asymmetry. Moderate deviation was common, and when put to the test of larger children would cause some difficulty in parturition. The reader held that all who practised obstetrics should regularly measure the pelvis, and for the purpose of study should record their results. The same statement applied to all difficult labors, especially prolonged second stage, in which note should be made of measurements of pelvis and head. Examples were also given of disproportion between height of individual and pelvic measurements.

Illustrative cases of the value of pelvimetry were given, in one case referred to in the paper, with a conjugate of 6.2 ctm. There had been delivery of four small living and three dead children prior to the woman's death in the last accouchement, when a very much larger child was mutilated to effect delivery. Dr. Harris had had experience which taught him that in lesser degrees of contraction test of the capabilities of the patient to deliver herself was not only to be advised, but insisted upon before deciding upon symphyseotomy, or Cæsarean section. Be prepared, however, for operative interference. For more extreme degrees of contraction, *i.e.*, conjugate vera of 6 ctm. or less, purely elective Cæsarean section was to be chosen.

The discussion was participated in by Drs. Marx, Collyer, Tucker, and the author. The former speakers

expressed their appreciation of the great labor expended by the author in preparing his charts, and of the value of pelvimetry in obstetrics. They thought it should be universally practised.

Stated Meeting, January 24, 1895.

MALCOLM MCLEAN, M.D., CHAIRMAN.

Further Report on a Case of Symphyseotomy.—DR. H. J. GARRIGUES presented a woman on whom he had performed symphyseotomy, followed some months afterward by removal of the uterus and appendages. (See p. 234.)

Uterus Removed without Clamp or Ligature.—Dr. Garrigues presented the uterus removed without clamp or ligature in the case of a widow of twenty-eight, who a few months before had parted with tubes and ovaries five or six times their normal size and full of small cysts. Pain remaining the same after the first operation, about three months afterward vaginal hysterectomy was performed. The uterus had become much atrophied meanwhile. The posterior vaginal incision was made, the chain-saw was abandoned for scissors, the vessels were cut with the loss of scarcely a drop of blood. Dr. Garrigues suggested as an explanation of this fact the great thickness of the walls of the branches of the uterine artery, since the lumen of the arteries could be seen constricted and surrounded by a thick ring. Another point of interest was the great extent to which the peritoneum could be pulled off of the muscular coat of the uterus. Fully two-thirds of the organ were thus denuded, and the rest of the peritoneum could be readily dissected off. The entire operation was under the eye, and should a vessel bleed it could readily be seized alone and tied without embracing surrounding tissue in the ligature. The real bleeding, however, was venous, and came from the raw surface between the mucous membrane of the vagina and peritoneum behind the uterus, and could be prevented by uniting the edges with catgut.

Finally, Dr. Garrigues wished to call attention to the advantages of exploratory incision through the vagina. It had none of the disadvantages of abdominal exploratory incision. The new method of removal without clamp or ligature was sometimes referred to as enucleation, but he thought it was not the proper term.

DR. H. N. VINEBERG said that some months ago he presented to the New York Obstetrical Society some cases in which he had removed tubes and ovaries through a vaginal incision, performing what he termed "vaginal cœliotomy." When he began doing vaginal fixation, eighteen months ago, he was struck with the ease with which he could deliver the adnexa through the vaginal incision, if he so desired. But he had not put the method into practice until last autumn. He had recently removed both tubes and ovaries through the vaginal incision in a patient who was able to leave the hospital fourteen days afterward. He made a longitudinal incision in the median line of the anterior vaginal wall, and claimed that this method had the following advantages over the incision in the posterior wall: 1, It was attended with less hemorrhage, and what did occur was under better control; 2, there was no danger of injuring the rectum; 3, in separating the bladder from the uterus and pushing it well out of the way, there was no danger of including the arteries in any ligatures that might be applied; 4, in cases of retroversion and retroflexion the same incision served the purpose of correcting the displacement by doing a vaginal fixation. He was pleased to see that Dr. Garrigues was taking kindly to "vaginal cœliotomy."

Regarding the second case, of removal of uterus without ligature, he would like to sound a note of warning that such a procedure was not free from the danger of subsequent hemorrhage. The cases in which the method was applicable had to be selected. In the case of a small and atrophied uterus, like the one shown by Dr. Garrigues, it was safe enough. But not so in cases of large vascular uteri with extensive adhesions. Instead of saying "no ligatures," he would say the use of ligatures as required to arrest hemorrhage, and not *en masse* to include vessels before they were cut.

DR. JARMAN asked Dr. Garrigues what was the cause of the waddling gait.

DR. GARRIGUES replied that it was the pain, and that both disappeared with removal of the diseased pelvic organs.

DR. JARMAN could hardly understand how pain could cause the waddling gait in this case and in another of symphyseotomy which he had seen. All had seen cases of intense pelvic pain without waddling gait. In the second case to which he referred, the waddling gait was still present at the tenth week, but disappeared after treatment of an abscess and removal of a ligature which had caused the abscess at the site of operation. When the abscess was opened two fingers could be placed between the ends of the pubic bones. He was disposed to think the waddling was cured by contraction of false ligamentous tissue between these bones, holding them rigidly together.

DR. R. A. MURRAY had had a case of symphyseotomy in which the symphysis separated very far, causing doubt whether there would ever be union again; but it took place, and there was no waddling gait. In four cases examined by him carefully after symphyseotomy, he felt underneath the pubic arch bony separation the breadth of his finger, whereas normally it was not more than about an eighth of an inch; yet there was no waddling.

DR. EDGAR mentioned a case of labor to which he was called in a woman who had on a former occasion been subjected to symphyseotomy, but since the pelvis was pretty large he delivered her of a seven-pound baby without operation.

DR. COLLYER had noticed that after delivery women with retro-displacement and certain pelvic conditions had more or less waddling; also, that after symphyseotomy there was more or less mobility between the ilia up to the sixth or eight month, when tested with the patient resting first on one foot and then on the other; and in view of the pelvic disease in Dr. Garrigues's case he thought perfect union was interfered with and caused waddling until after the hysterectomy.

DR. GARRIGUES, replying to Dr. Vineberg's remarks, expressed the opinion that it would be a much more serious matter to make the vaginal incision in front of the uterus instead of behind, because of the danger of injuring the bladder, etc. Regarding the waddling gait, it might have been due to the occurrence of symphyseotomy and something else at the same time, but that the something else was the real cause seemed to have been proven by disappearance of the waddling after the second operation.

Case of Inversion of the Uterus. — DR. CHARLES JEWETT related the case. He had seen the patient with Dr. Ray on the 15th inst. She was a primipara, aged twenty-nine, had been delivered by Dr. Ray at 11 A.M., the 12th, after twenty-four hours' labor. There was profuse hemorrhage, but no shock. The uterus remained relaxed for some time. Ergot was given. The placenta was found in the vagina and was removed. At 1.30 P.M. the uterus was fairly contracted. Ergot was repeated in the evening. Next day rectal tube was used to relieve tympanites. The temperature rose on the 15th, and Dr. Ray found the uterus in the vagina, completely inverted. Dr. Jewett saw the patient late in the afternoon, the temperature was 103.2° F. After thoroughly cleansing the surface of the uterus, an attempt was made to reduce it under chloroform. First, pressure was made against the fundus with the finger, but as this proved too tiresome, a clean potato-masher was used, a bundle of gauze intervening between it and

the uterus. Reduction having been effected, gauze was introduced into the cavity of the uterus and vagina. The patient did well at first, but died of septicæmia about the fifth day, there being no evidence of septic foci outside the uterus. Dr. Jewett thought hysterectomy should have been performed as soon as it was seen that the patient was not doing well. Points of interest were the occurrence of spontaneous inversion several hours after labor, absence of material shock, absence of pain.

Dr. H. T. Hanks suggested that since the uterus was so large, the possible explanation of the case was partial or complete paralysis of the cervix.

Dr. R. A. Murray thought it not unlikely that version was frequently due to the faulty way in which the nurse or physician compressed the uterus after delivery. According to his observation, they almost universally simply indented the fundus with the fingers, instead of grasping the entire fundus and squeezing it.

Dr. Marx thought that in all cases in which the uterus did not show a tendency to contract it should be stuffed with iodoform gauze. Had that been done, he thought, inversion would not have taken place in the case related.

Dr. Collyer thought a tendency to fat, or fatty degeneration, caused relaxation of the tissues and favored inversion of the uterus.

Dr. Jewett said there was, no doubt, relaxation in this case. Sepsis had been established before reduction, as shown by the temperature, etc.

Symphyseotomy in a Tenement-house.—Dr. Herman L. Collyer read the paper and reported a case. The success of symphyseotomy, he said, depended upon accurate diagnosis, early performance, correct technique, prevention of sepsis, all of which could be carried out at the patient's home, even though it were a tenement-house. The risk was no greater than in hospitals, except with regard to sepsis. The antero-posterior contraction ought not to exceed two inches and a half, and the separation two inches and a quarter or a half. Greater separation was attended by great risk to the sacro-iliac synchondrosis and the soft tissues. Two factors determined the immediate results, namely, elective operation and antisepsis. The author preferred subcutaneous or post-pubic section. After describing the steps of the operation, he urged care on dividing the subpubic ligament, lest there should be too great separation. At this stage there was considerable hemorrhage, which could be controlled by the insertion of gauze. The child could be turned or the forceps be applied, at the option of the accoucheur. Care should be taken to prevent bruising of the soft tissues between the edges of the pubes. At the end of labor a strip of gauze was inserted at the lower angle of the wound, and the edges of the wound were stitched with silkworm gut. Reunion was best accomplished by a strap and perfect rest from two to four weeks.

Dr. Collyer's case was in a woman who, about a year or two before, had been delivered of a mutilated child after numerous attempts at extraction by several physicians. The soft parts had been injured also. During the next pregnancy she consulted him, November 15, 1893, and it was arranged to do symphyseotomy near term. The pelvic measurements were as follows: External, from crest to crest of the ilia, 10.5 inches; spine of the ilia, 8.75; spine of pubes, 5; crest to the pubes, 7.75; trochanters, 12; external conjugate, 7.75; internal conjugate, 3 inches. June 5th, aided by Dr. Grandin, in an apartment-house, patient anæsthetized, os dilated manually, head in left occipito-anterior position; pubes shaved, parts cleansed thoroughly; incision made over the vesical space; went down with blunt hook and finger to region of triangular ligament; hemorrhage speedily checked by gauze; divided the ligament; the joint was permitted to separate about two inches. Dr. Grandin ruptured the membranes, performed version, and extracted a child weighing nine pounds. Recovery was uninterrupted. Slight sloughing at one of the stitches, which readily healed. The child's head was measured and found too large to have passed the pelvic outlet: Biparietal, 4.25; occipito-frontal, 5; occipito-bregmatic, 4; bitemporal, 3.25.

The author said that this case and others of symphyseotomy in tenement-houses — Edgar, Coe, Garrigues, Murray—proved the feasibility of the procedure under such circumstances.

Dr. Garrigues would deny absolutely that it was as well to do symphyseotomy in a tenement as in a hospital. There were so many advantages in a hospital that it would be better to put the patient into a carriage, even while in labor, and take her there. Everything which one touched in a tenement was not only not aseptic, but was not passably clean. Nor was the operation always easy; sometimes it was quite difficult even for the experienced. At least two good men were necessary, and three or four assistants.

Dr. Charles Jewett said he had had all the experience he wanted with operations in tenement-houses. The objection to such surroundings pertained even less to the operation than to the after-care.

Dr. P. A. Harris said that while the operation could be done in a dirty house, it would be at considerable expense to the operator if he cared for success. It would be cheaper for him to hire a hall in the neighborhood and fit out a temporary hospital! In a tenement the rooms were dirty; the patient was dirty; everything was dirty; articles were required which were neither in the house nor in the neighboring houses. Regarding purely elective symphyseotomy, it should be borne in mind that it was not so much a question of the diameters of the pelvis as of the size of the child which was to pass through, and unless we were willing to wait until the second stage of labor, we would be likely to perform symphyseotomy unnecessarily, simply because the pelvis was more or less contracted and the woman had had difficulty at a previous labor, forgetting that the child might have been much larger than the present one would prove to be.

Dr. Marx did not believe that mortality statistics, thus far, justified us in calling symphyseotomy a safe and conservative operation, at least when compared with induction of premature labor; and in his opinion Dr. Collyer should have resorted to the latter, especially inasmuch as the patient lived in a tenement.

Dr. Vineberg admitted that the operation was safer in a hospital, yet he had obtained as good results in many gynecological operations in tenements as could be shown by hospital statistics.

Dr. Collyer thought it was the men connected with hospitals who refused to do operations in tenements. Such a practice tended to pauperize the community. As to induction of premature labor in preference to symphyseotomy, it must be remembered that the nearer term a child was born the better were its chances of living.

Does Laceration through the Sphincter Ani ever Occur in the Median Line? Sixteen Cases of Lateral Injury.—Dr. Robert L. Dickinson read the paper and illustrated on the board and by chart. In 16 cases of sphincter injury seen soon after labor, no laceration in the median line was found, and but 2 near that point. In 8 of the cases the tear of the external sphincter occurred from seventy to ninety degrees from the median line. In 12 of the cases the anterior end of the torn muscle was rooted out of its sheath and hung bare, while the sheath presented a well-defined pocket or pit. In late secondary operations the lateral character of the injury was difficult to detect. There were anatomical reasons for the laceration at this point under the conditions found during maximum distention. Since the time, in February, 1887, when a striking case of recent lateral injury to the anal sphincter drew his attention to the matter, the writer had looked in vain for a case

of laceration in the median line. The cases, with a few exceptions whereof the notes were lost, seen within one or two weeks of delivery, had been carefully noted and sketched, and were reported in the paper. In all, œdema or rigidity of the pelvic floor, or violence during delivery, explained the injury.

The vaginal laceration and the anal injury might be on opposite sides. The method of repair consisted in two buried catgut sutures carried through the free hanging end of the muscle and then down into the pit to catch the hidden end, drawing the torn parts in accurate apposition. The rest of the injury was then repaired as usual, taking care that one of the external silkworm sutures supplemented the catgut in the sphincter.

It would be seen from this study of fresh tears of the external sphincter, that it was not sufficient in old injuries to make a simple denudation and unite. A careful study of the topography was necessary, one had to hunt for the point at which the muscle had parted, and dig for the end which had drawn itself within its burrow. The contraction and atrophy might be considerable and make the search difficult.

Dr. Jarman had thought one should take into consideration the fact that the injury was lateral, not median, in making secondary repair. He had not known, however, that the tear was always lateral. The pit, referred to in the paper, should be a landmark in operating.

Drs. Murray, Vineberg, and the author made a few remarks on the method of operating.

Election of Officers.—Dr. H. C. Coe was elected Chairman, and Dr. G. W. Jarman Secretary, for the ensuing year.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, January 28, 1895.

Egbert H. Grandin, M.D., President, in the Chair.

Anæmia in Children.—Dr. Frederic M. Warner read a paper on this subject. (See p. 231.)

Dr. J. H. Fruitnight had found citrate of iron in moderate doses well borne by children. Arsenic was very valuable, and he had obtained benefit from oxygen in several cases.

Dr. Bishop preferred Zeiss's hæmacytometer to Gowers's, and said it should be used from week to week in cases of anæmia, in order to appreciate the effect of treatment. When one used such an instrument he lost confidence in his ability to judge of anæmia by the appearance. A great deal of iron was administered unnecessarily because physicians did not employ this simple and accurate means by which to judge of anæmia. The amount of dentistry caused by giving tincture of chloride of iron was enormous, and could be quite avoided by giving Blaud's pills, which were just as useful in any but the acute form of anæmia.

Anæmia and Chorea.—Dr. A. D. Rockwell called attention to the liability of anæmic patients to chorea, especially under such exciting influence as fright. The lowered condition of the blood-supply seemed to influence the cerebral cortex, and in that way induce the chorea.

Anæmia an Expression of Rickets and Arrested Development.—Dr. Mary Putnam-Jacobi thought anæmia in children was nearly always an expression of rickets and of arrested development. It might be compared with the chlorosis of adolescence, since both implied that development was irregular, and had not been met by sufficient force of nutrition. The elimination of the process of growth in adults made a very great difference between anæmias occurring at this time of life and in childhood. The reader had not spoken of cod-liver oil and the lime salts. These often made it unnecessary to give iron to children at all.

Dr. R. A. Murray thought the process of growth was a fact ever to bear in mind in discussing the anæmias of children. Iron, cod-liver oil, arsenic, and mercury appealed to the nutrition. In institutions they wrapped young anæmic children in cotton soaked with cod-liver oil, with the result that daily improvement could be seen in their condition. There was clinical ground for the use by the old physicians of small doses of bichloride of mercury as a tonic. Where there was tendency to rheumatism, iron seemed even to precipitate a rheumatic arthritis.

Elective Accouchement (So-called Accouchement Forcé): Its Advantages.—Dr. L. M. Michaelis read the second paper of the evening (see p. 228).

Condemns the Bougie; Commends Barnes's Bag.—Dr. Ralph Waldo had been highly pleased with that part of the paper which condemned rupture of the membranes and introduction of bougies. He termed the latter a relic of barbarism. If there were no great urgency for immediate dilatation and delivery, he would prefer Barnes's bag to manual dilatation. The bag filled with water tired the cervix better, and was attended by less danger of tear.

Dr. R. A. Murray thought dilatation could be accomplished much better and sooner by the hand than with Barnes's bag, and the method was attended by less danger of sepsis.

Commends the Bougie; Condemns Barnes's Bag.—Dr. E. A. Tucker differed decidedly from Dr. Waldo, who had spoken of the bougie as barbarous, for he had employed it with satisfaction in fifty or seventy-five cases the past five years. He thought Barnes's bag rather was a relic of barbarism. There were some disadvantages to the bougie. Accouchement forcé was a valuable method, but if it were employed universally he thought the results would not by any means be so uniformly successful. It would probably result in sepsis and deep tears in the hands of some. With proper care the bougie should not cause sepsis, and he was unable to comprehend how it could have caused rupture.

Dr. Marx was glad to see so conservative a man as Dr. R. A. Murray come over to the side of the President, Dr. Grandin, who had read the first paper on the subject of accouchement forcé over two years ago, and was soon followed by Dr. Marx. They were told that they would murder some women, but two years had elapsed and no murder had yet been committed. On the contrary, lives had been saved where formerly they had been lost. He knew of but one contra-indication, and that was cicatricial stenosis of the os. In that condition Dührsen's cutting operation was indicated.

Dr. Feinberg hoped the paper would lead to the more general adoption of this method. He thought the woman should be anæsthetized during the first as well as during the second step. He had met with one case, without cicatricial stenosis, in which he was unable to dilate with the fingers, and Dr. Grandin then tried and also failed.

Dr. Fruitnight related a case of placenta prævia in which manual dilatation was practised, and mother and child were saved. Barnes's bag should be relegated to barbarism.

Dr. A. F. Currier had seen a number of cases of rigid os in which forcible dilatation by the steel dilator was best. Manual dilatation in primipara might in some cases be extremely difficult, if not impossible.

Dr. Michaelis said he had expected his paper to meet with tremendous opposition, while in fact it had met with none. Anæsthesia was unnecessary during the first step. It was not painful to wash out the vagina. In placenta prævia the depressing effect of the anæsthetic at this stage might bring on hemorrhage. While his own cases had occurred in multipara, he could see no reason why there should be difficulty in dilating with the tamponade and hand in primipara.

Incubator for Prematurely-born Infants.—Dr. Simon Marx demonstrated an incubator for raising pre-

maturely-born infants. It contained a heat-regulating apparatus or thermostat. The proper temperature was about 96° F. The manufacturers sold the incubator for twenty-five dollars.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 28, 1894.

GEORGE C. FREEBORN, M.D., PRESIDENT.

Calculus Pyelitis.—DR. H. P. LOOMIS presented an unusual specimen of calculus pyelitis. The patient, Kate B——, thirty years of age, had been under observation in Bellevue Hospital for two weeks previous to her death, and yet no symptoms had been detected indicative of the extensive kidney lesion from which she had suffered. There had been no frequency of micturition, and no albumin or casts in the urine, but pus had been found in moderate quantity. The history stated that she had been losing flesh and strength for the past two years, and had had repeated attacks of dyspnœa, palpitation, and precordial pain, with morning vomiting. She had also complained, particularly within the past two months, of severe pain in the back, shooting into the right side. Examination had shown her to be very pale, and the heart-action quite feeble. The patient was an alcoholic subject, and had peripheral neuritis, so her general condition was ascribed to alcoholism. She grew steadily weaker, and finally died of cardiac failure. At the autopsy, which was made twenty-four hours after death, the heart cavities were found dilated, but there were no valvular or arterial lesions. The liver was enlarged and fatty, but with these exceptions there were no lesions found outside of the kidneys. Both kidneys were moderately enlarged, and of a red color, and on section the renal substance was found to be almost entirely destroyed, its place being occupied by large cysts communicating in each kidney with an excessively dilated pelvis and calices. In places the cysts were only separated from the capsule of the organ by strips of kidney substance scarcely one-eighth of an inch thick. Both kidneys were about equally involved, and contained but very little normal tissue. The cysts contained a thin, turbid fluid, apparently urine with some pus. From eight to fifteen calculi were found in each kidney, and they were so large as to fill the pelvis, calices, and a number of the cysts in each organ. One large stone, the size of an egg, with rounded facets, filled the pelvis and a number of the cysts in the right kidney. The pelves of the kidneys showed none of the evidences of a pyelitis which could be accounted for as a primary condition. The microscopical examination of the calculi showed them to be composed entirely of uric acid. Many of the sections of the kidney showed a comparatively normal structure, while others revealed a moderate interstitial nephritis. Both ureters were dilated. The bladder was normal.

The speaker said that in his experience the formation of such a large number of calculi as a primary condition had been very rare. There was no pyelitis in this case except what had been set up by the irritation of the stones. The secondary retention cysts were due to the hydronephrosis caused by the obstruction which the stones offered to the outflow of urine, as they had moulded themselves into the shape of the pelvis or calices, and had extended into the elongated recesses formed by the dilated calices and cysts. Another interesting point was the absence of renal symptoms in this case.

DR. S. T. ARMSTRONG said that in all cases in which he had found dilated pelves at autopsy, he had also observed that the ureters were dilated. He had been unable to find an explanation of this fact.

Aneurism of the Left Ventricle in a Fibroid Heart.—DR. LOOMIS then presented this specimen. George H——, sixty years of age, had been admitted to Bellevue Hospital in an unconscious condition, with complete paralysis of the right side of the face, and of the right arm and leg. He died at the end of three days without having regained consciousness, so no history had been obtained. The autopsy was made ten hours after death and showed an extensive area of yellow softening in the brain, involving the internal capsule and a part of the temporal lobe. The arteries of the circle of Willis showed atheromatous and calcareous changes, and were extensively diseased. Examination of the small arteries in various parts of the body revealed the existence of a general arterial fibrosis. The kidneys were normal as to size, color, and adherence of the capsule, but the microscope showed moderate diffuse interstitial nephritis. The lungs and liver were normal. The heart was enlarged, weighing sixteen ounces, and was of firm consistence. On opening the left ventricle an aneurism was found to have burrowed nearly through the wall of the heart, leaving only about one-twelfth of an inch of muscle fibre intact. The diameter of the aneurismal pouch was about an inch and a quarter. Scattered through the hypertrophied wall of the left ventricle were white patches. One of these was as large as a cherry, and presented almost the appearance of a distinct tumor. Microscopical examination of a number of sections made through these patches, and through portions of the cardiac wall that appeared to be normal, revealed the lesions of a very widely disseminated and advanced interstitial myocarditis, which had entirely destroyed the muscle fibres in the white areas. The thin portion of the aneurismal sac was fibrous tissue, with only a few heart-fibres seen among the connective tissue. The valves of the heart were normal. The coronary arteries from their origin to their microscopical subdivisions showed all forms of arterial degeneration—calcification, atheroma, and fibrosis. The aorta itself was but slightly diseased.

The speaker said that this heart was interesting—1. On account of the extensive and general destruction of the new connective tissue, no portion of the wall of the left ventricle being free from this increase. 2. Because there was a fibroid myocarditis independent of, and not accompanied by, any changes in the endo- or pericardium. The new connective tissue had started from the interference of the circulation through the obstruction in the coronary arteries. 3. The white masses, appearing like tumors, were areas of dense new connective tissue. 4. The aneurism was one of the results of the destruction of the muscle-fibres, and the giving way of the heart-wall from chronic interstitial myocarditis.

Prostatic Abscess, with Resulting Thrombi in Right and Left Bronchi; Gumma of the Kidney.—DR. FARQUHAR FERGUSON presented the specimens. They were taken from John K——, aged fifty-six, who had been admitted to the New York Hospital on November 7, 1894. The history stated that he had had gonorrhœa for the first time about ten years ago, and that since that time there had been more or less discharge. Twenty-five years ago he had had syphilis. For the past four years he had noticed some difficulty in urination, and more or less incontinence. Three months ago a painful mass had been first noticed in the perineum. This had proved to be an abscess, which had opened spontaneously. Since that time most of the urine had been discharged through this opening. Later on, another perineal sinus had formed more anteriorly. At the time of his admission to the hospital, most of the urine was passed through these sinuses; his urine was cloudy, and contained pus and about five per cent. of albumin. Physical examination showed the upper half of the glans penis to have been eroded by a chancre, and the whole region to be in a more or less cicatricial condition. A No. 23 sound was passed into the bladder. In the anterior part of the perineum, on the right side of the base of the scrotum, was a

sinus, two and a half inches deep, which communicated with the urethra. Well back on the left buttock was another sinus, also discharging urine. On November 14th, under ether, Dr. Stimson laid open the sinuses, curetted them, and packed the wounds with iodoform gauze. On each of the two succeeding days the patient had a chill. The wounds looked fairly healthy, and more urine was discharged through the natural channel than had passed for some time previously. Three days later he was up and around the ward. On the evening of November 24th he had another chill, followed by a temperature of 101.8° F.; his pulse was almost imperceptible, and his breathing very labored. On November 26th he was again about the ward, but in the early part of that evening he suddenly fell dead. The autopsy showed a large abscess cavity, filled with pus, situated behind the prostate. The bladder was enormously hypertrophied, and the urethra showed strictures and evidences of false passages having been made. There was a moderate dilatation of the pelves of the kidneys. A thrombus was found in the right and left bronchi.

Tuberculosis and Sarcoma.—Dr. Ferguson then presented specimens showing tuberculosis and sarcoma in the same individual. Mary S——, sixteen years of age, a Syrian, had been admitted to the hospital on February 19, 1894, with the history of having had a swelling on the left side of the neck for the past three years. This swelling had been incised on two occasions, and had continued to discharge. One month before admission a swelling had appeared on the right side of the neck. Two years before, the left elbow had become somewhat enlarged and painful. On admission, the physical examination showed the left side of the neck to be the seat of a swelling which extended from the ear, below the jaw, nearly to the median line, and down to the clavicle. There were three granulating areas. On the right side of the neck was a tumor about the size of an egg. There was also a slightly tender swelling on the ulnar side of the left elbow. On February 21st an extensive dissection was made of the left side of the neck, and the glands removed. On account of the amount of skin necessarily removed at the operation, the wound healed largely by granulation. Eighteen days after the operation, acute pain and swelling developed in the left elbow, and three days later, March 14th, the elbow was incised, and a large amount of grayish and fatty degenerated tissue was dissected away. It completely surrounded the ulnar nerve for two or three inches, and extended under the posterior fascia up to the olecranon, and into the extensor muscles of the forearm. The wound was partly stitched, and partly packed with iodoform gauze. With the exception of two small sinuses the wound was entirely closed three weeks after the operation. On April 6th the glands were dissected away from the right side of the neck. On April 27th it was noted that there was a sinus in the arm and in the neck, and that the left ankle had just become swollen. It was at once encased in plaster of Paris. On May 23d an abscess of the ankle was opened. On May 30th it was noted that the recurrent tumor in the left elbow was rapidly enlarging. On July 9th the history states that there was an abdominal tumor reaching up to a point between the umbilicus and the ensiform cartilage. By July 23d the sinus in the neck and elbow had closed, and the entire abdomen a curved line from the eighth rib to two inches above the umbilicus, and to the middle of Poupart's ligament, on the left side, was the seat of a tumor. The patient was then sent into the country. On her return, September 1st, she was greatly emaciated; all the tumors had increased in size, and in addition there were six subcutaneous nodules in the abdomen and chest. She died on November 28th.

This woman, at the time of her admission to the hospital had had typical tubercular glands of the neck; and the gross appearance of the tissue removed from the elbow was also that of tubercular tissue, but the microscopical examination showed it to be typical sarcoma. After death all the tumors were removed. There were sixteen of them in the abdominal wall. Undoubtedly, the speaker said, this girl had had both tuberculosis and sarcoma. The tumors had involved the ovaries, but not the uterus. The more recent tumors of the neck were secondary sarcomata. The kidneys showed several nodules, which would probably prove on further examination to be sarcomatous.

The Society then went into executive session.

Stated Meeting, December 12, 1894.

George C. Freeborn, M.D., President.

Ruptured Aneurism of the Arch of the Aorta.—Dr. Pearce Bailey presented, through the courtesy of Dr. Hodenpyl, specimens from this case. A man, aged fifty-nine, came to Roosevelt Hospital last October. Three months before he had become overheated, and had been in the Presbyterian Hospital for five hours. On leaving that hospital, he had complained of some pain about his chest. On entering the Roosevelt Hospital, in October, he was suffering from a paraplegia which had occurred very suddenly and without apparent cause. Examination showed loss of knee-jerks, and control of the bladder and rectum, and anæsthesia below the mid-thoracic zone, but extending irregularly from the fourth intercostal space on the left side, and the fifth intercostal space on the right side. Examination of the urine was negative. He died a few days after admission. The house-staff were positive that there was no circulatory cause of death. At the autopsy, the spleen and the liver were found in a condition of chronic venous congestion, and the kidneys were the seat of chronic diffuse nephritis. The lungs were apparently normal. The left pleural cavity contained about one pint of clear serum. There was a very little fluid in the right pleural cavity, but at the bottom of this cavity there were about two quarts of blood-clots. At the lower and posterior part of the arch of the aorta, was an opening measuring about 1½ × 1 inch. It had rounded edges, and communicated with a thick aneurismal sac. The aneurism had eroded the adjacent vertebræ. The heart was of about the normal size. There was atheroma of the coronary arteries and of the abdominal aorta. On opening the spinal cord by the posterior method, a firm blood-clot was found embedded in the dural fat. It was situated on the posterior surface of the dura at a point corresponding to the third, fourth, and fifth dorsal segments, and was distinctly circumscribed. Underneath this clot at the fourth dorsal segment of the cord was an area of necrosis.

From the nature of the aneurismal opening, and from the fact that there was clear serum in the upper part of the pleural cavity with clotted blood lower down, it was evident that the aneurism must have ruptured some time before death; yet the patient had not given any definite symptoms of such a condition. Was it possible that the aneurism had ruptured three months previously, while he was at the Presbyterian Hospital? It was also interesting to note that on the left side the clot was below the third, fourth, and fifth segment, and that on that side of the body the anæsthesia extended about two inches higher than on the other side.

Double Empyema; Acute Lepto-meningitis; Large Meckel's Diverticulum.—Dr. George P. Biggs presented several specimens from a case giving the following history: A male, aged fifty, had been found in a lodging-house on the same day on which he had died. It was stated that he had walked into the house on the night previous. When found he was semi-comatose; there was marked rigidity of the muscles of the back of the neck; the pupils were symmetrically contracted, and not responsive to light. Pus was found in both

pleural cavities. The man died while preparations were being made to evacuate the pus by rapid incision. At the autopsy, which was made twelve hours after death, the rigor mortis was extremely slight. There were two quite superficial recent abrasions over the second toe, and one over the right knee. The abdominal cavity was normal, with the exception of a slight recent perihepatitis. The diaphragm was depressed about one space on each side. Each pleural cavity contained about fifteen hundred cubic centimetres of sero-purulent fluid, and the lower and posterior portions of both lungs were covered with very thick layers of purulent fibrin. The layer over the right lung was fully one and a half centimetre in thickness. The lungs were adherent posteriorly, and during life gave rise to numerous râles over the posterior portion of the chest. On cutting open the lungs, the upper half of the upper lobe of the left lung showed a mass of fibrous tissue, with cheesy areas scattered through it, showing the existence of an old tuberculosis. In another portion of the same lung were several small, grayish, shot-like tubercles, evidently of very slow growth. Similar lesions, though of less extent, were found in the apex of the right lung. The vessels were free from thrombi, and there was no œdema. The pericardial sac was greatly distended with thin pus, and both surfaces of the pericardium were covered quite thickly with purulent fibrin. The clinical record showed that the heart-sounds had not been particularly feeble, and that there had been no friction-sounds heard.

In the same case there was an acute lepto-meningitis, involving both the brain and spinal cord. The exudate was over the entire surface, but was most abundant over the vertex and median surface. An unusual quantity of sero-purulent fluid escaped on incising the brain. The velum interpositum contained considerable pus, and there was a small amount of purulent fluid in each lateral ventricle. Examination of the fresh blood from the brain and pericardium showed in the former an unusually large number of diplococci with distinct capsules. In the fibrin from the surface of the lung and from the pericardium, a few of these only were found.

An unusually large Meckel's diverticulum was present in this case. It was about two feet from the ileo-cæcal valve, and was 14 ctm. in length and 3 ctm. in diameter. There were a number of small secondary diverticula near the termination. At the hepatic flexure of the colon were four pigmented cicatrices, ½ to 2 ctm. in diameter, and feeling more or less nodular.

Encapsulated Empyema; Ulcerative Endocarditis; Renal Calculus.—Dr. Biggs also presented specimens from a second case. This patient was a female, forty-five years of age, who first complained of sickness about five weeks before she came under observation at the New York Hospital. On admission complained of pain on the right side with dyspnœa, and of cough with mucous expectoration. There was no chill or fever, and she did not take to her bed until about three weeks before death. On entering the hospital her temperature was 100.6° F., respirations 36, and pulse 136. At this time there were signs of fluid in the right chest; the heart was intermittent and very feeble. The right chest was aspirated, and seventeen ounces of purulent serum withdrawn. The temperature then rose to 103.4° F. The chest was accordingly incised and drained. Examination of the urine showed a trace of albumin with granular casts. The temperature still remained between 104° and 105° F. after this drainage of the chest; she developed slight delirium, and finally died twelve hours after the operation. At the autopsy, a double empyæma was found. The cavity which had been drained was free from fluid, but there was considerable fibrin. On the left side there was an encapsulated empyema over the middle of the lower lobe, containing about six ounces of pus. The heart was slightly dilated. The left ventricular wall was very slightly hypertrophied. The tricuspid, mitral, and aortic valves were perfectly normal. On two of the cusps of the pulmonary valve were large thrombi, with ulceration of the under surface of the valve. The largest thrombus had a diameter of 2 ctm., was very firm, and distinctly laminated. The lungs were congested and œdematous, and there was some hypostatic consolidation of the posterior portions. The spleen was two and one-half times its normal size, and quite soft. The left kidney was much larger than normal, the capsule was slightly adherent, the surface was finely granular, and the cortex showed many cysts. The right kidney was surrounded by an unusually thick layer of adipose tissue. The kidney appeared outwardly to be about normal, except that its capsule was adherent. The pelvis was considerably dilated, and contained a calculus, 4 by 1¼ ctm., one end of which fitted into the opening of the ureter. Around the pelvis was a thick deposit of solid adipose tissue between the pelvis and the kidney-tissue proper. The latter formed a ring only about three-quarters of a centimetre thick at the surface.

Tumors of the Skin—Mycosis Fungoides.—Dr. Biggs next presented some unusual tumors of the skin. They had been removed from a married woman, thirty-five years of age, whose family and personal histories were negative. About four years before coming under observation at the New York Hospital, she had first noticed an eruption on the legs, arms, and back, which was described as consisting of red pimples slightly depressed in their centres. These had grown slowly until some of them had reached the size of a hen's egg. Some had disappeared spontaneously, it was said, leaving a copper-colored stain, while others had ulcerated. The urine had been normal; the temperature 99.2° F., the pulse 80, and the respirations 20. At the time of admission, examination showed an immense number of reddish non-indurated spots on the legs, and a few on the back. There were twenty to thirty nodules, varying in size from a pea to a hen's egg, and ulcerated on their flattened surfaces. The large ones were found chiefly on the legs, thighs, and hips. They were all very freely movable, and slightly constricted at the base. The glands of the groin and axilla were enlarged. A number of the large tumors were removed from different situations. About two weeks after this, the history stated, two tumors had nearly disappeared spontaneously, and two weeks later, some new tumors had appeared.

Three of these large growths were presented to the Society. One had a diameter of 8 ctm., and was elevated about three centimetres above the surrounding skin; another was 5½ ctm. in diameter, and the third was 3 ctm. in diameter. In the fresh state they were red over the surface, and appeared to be superficially ulcerated. On incision, they were found to be of firm consistence, grayish in color, moderately vascular, and not degenerated in any portion. Microscopical examination showed that the epidermis was not involved except where ulceration had occurred, the process having been in the derma and subcutaneous tissue. In structure they consisted mainly of small round cells with a small amount of young connective tissue mixed with them. The blood-vessels had quite thin walls. The appearance was not unlike that of some cases of apparently simple adenitis. It also bore a striking resemblance to a sarcomatous growth, so that it had been a matter of dispute whether these growths could be distinguished from sarcomata. Those who claimed to distinguish between the two, said that the clinical history was different—the condition beginning as an eruption not unlike lichen planus, and the fungoid growths not developing for some time afterward. Another distinguishing point was the spontaneous disappearance of some of the tumors, eventually leaving not even a copper-colored staining. If no complication occurred, death resulted in these cases from progressive anæmia or from the development of leukæmia.

A few observers had found the condition associated with a micrococcus, but many other observers had not found them present.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DR. JAMESON, C. B., THE SOUTH AFRICAN ADMINISTRATOR — DETACHMENT OF RETINA—MALINGERING—PARALYSIS OF DIAPHRAGM AFTER DIPHTHERIA—INTESTINAL OBSTRUCTION FROM GALL-STONES—HEALTH OF LONDON.

LONDON, February 2, 1895.

DR. JAMESON'S distinguished career as a South African "Administrator" is naturally a source of congratulation by his professional brethren, especially those who knew him in earlier days. This feeling has led to his being entertained at a dinner got up in his honor by his old teachers and fellow-students of University College, where he obtained no little credit during his curriculum and competed successfully against Mr. Pepper for a residential appointment. Mr. Christopher Heath took the chair at the dinner, where Sir Russell Reynolds and other teachers of Dr. Jameson were present. In returning thanks for the toast of the evening Dr. Jameson was very happy in the way he assured his hosts that whatever political views might be held and whatever public opinion might eventually obtain, he was most anxious that his profession should understand the origin of what took place, how for three years everything possible had been done to avoid a conflict, how he hoped to the last it would still be avoided, and that no one could be more ready than he was to condemn any attempt to bring on a conflict with these unfortunate races.

On Monday Dr. Jameson gave an address at the Imperial Institute to a distinguished audience, between two thousand and three thousand in number, presided over by the Prince of Wales. The doctor gave a glowing account of the territories of the chartered company, where whites can live in health and rear their families, and where there is plenty of room for our overflowing population, and prosperity awaits their arrival.

Sometimes the course of retinitis in cases of granular kidney is very rapid, though in others dimness of vision may not be complained of. The prognosis, however, of albuminuric retinitis in any form is generally grave. Occasionally detachment of the retina occurs, and Dr. Samuel West related two cases of this lesion at the Clinical Society last Friday. He drew attention to the suddenness of the onset of failing vision; for a patient may become blind in a few days after first perceiving any dimness. It must be admitted that detachment of the retina is very rare compared with hemorrhage, though one of Dr. West's cases was complicated by purpura; thus showing a hemorrhagic tendency.

Dr. Semon related a rather curious case of malingering in a lady, thirty-six years of age, who inflicted injuries on her throat, apparently for the sake of exciting sympathy. There seems to be no doubt about the origin of the injury, and the patient had formerly been seen by Mr. Hutchinson for injuries about the breast, which he was convinced were artificially produced. Some other cases of malingering were mentioned by other speakers, after which a paper was read by Dr. Pasteur on respiratory paralysis associated with cardio-pulmonary symptoms in diphtheritic paralysis, based on 32 cases in the Northeastern Children's Hospital. In no less than 29 of these cases the diaphragm was paralyzed and 16 of them died. This is certainly a very large proportion, and the author found that the diaphragm might be affected with paralysis coming on insidiously as a part of the peripheral palsy, or it might come on acutely as a part of a bulbar crisis. If such experience is general, the mortality of diphtheritic paralysis is probably higher than commonly supposed, as the fatal symptoms might not be attributed to the primary disease. Certainly, recovery from bulbar crisis must be very rare, and the supervention of respiratory trouble would indicate the gravest prognosis. If paralysis of the diaphragm lasted for two days, Dr. Pasteur found collapse of the lung very likely to occur, giving rise to definite physical signs, the base of the right being more frequently affected than that of the left lung. Many of his cases were verified by autopsy, and all were excluded in which there was any doubt as to the paralysis of the diaphragm. A good deal of surprise was nevertheless expressed at the large proportion of recoveries from a lesion which is generally observed to be fatal, and there is no doubt that it may occur later than is often supposed, coming on quite suddenly, six, eight, or nine weeks after the primary disease.

At the last meeting of the Royal Medical and Chirurgical Society Mr. Mayo Robson read a paper on the varieties of intestinal obstruction due to gall-stones, which he classified thus: 1. Dependent on local peritonitis in the region of the gall-bladder leading to paralysis of the bowel. 2. Volvulus due to violence of the colic induced by the passage of a large concretion through the small intestine. 3. Mechanical obstruction by a large concretion. 4. Obstructions by adhesions or stricture, the result of past attacks, or of healing fistula. Two cases were related of the first kind, then two of the second. While as to impaction, communications from institutions receiving eighty thousand patients gave only four cases in the last twelve months, showing that even this form, though the commonest, is certainly rare; a conclusion which agreed with the statistics of other speakers. Mr. Robson considered recovery from volvulus scarcely possible except by operation, and that statistics earlier than two years ago could not give such results as may now be obtained, still less as we anticipate in future. At the same time he admitted that if all surgeons operated as routine treatment increased, mortality might follow.

The President (Mr. Hutchinson) regretted the author had not collated the successes in recent years, and said that up to this time one-half of his cases died after operation, and he was inclined to think that even when death threatened, the chances of recovery were about equal if operation was refused. He hardly thought the third class supported the proposal for operating, and he mentioned another class which had not been alluded to, viz., cases when a gall-stone remained for months in the intestine, giving rise to repeated attacks of obstruction. He spoke of two such cases, both of which eventually passed the stone without assistance, and remarked that he had never seen in the autopsy-room an impacted stone which had caused death. Another speaker had previously remarked that he had only seen one impacted gall-stone in the course of eight hundred autopsies, but I believe there are a few specimens scattered among the pathological museums.

The health of London is improved. Last week the mortality from diphtheria fell to twenty-nine, just one under the corrected average for ten years.

The British Institute is now supplying antitoxin.

The British Pharmacopœia is apparently as perfect as, and more tangible than, the British Constitution. In a heated discussion before the General Medical Council concerning the need of a revision, one speaker after another declared it to be the best pharmacopœia ever published, and the general opinion seemed to be that it would be as wicked to revise the pharmacopœia as to revise the prayer-book.

A HYPNOTIZED MURDERER.

To the Editor of the Medical Record.

Sir: Referring to your editorial in the Medical Record of January 12, 1895, entitled "A Hypnotized Murderer," it fell to my lot to be a witness in this case, at the coroner's inquest, the preliminary, and at the final trial in the District Court. I was called to attend the murdered man, Thomas Patton. The subject of hypnotism was not suggested until after the jury in the case of the State against Anderson Gray had rendered their verdict, which was murder in the first degree; but during or after the trial of Macdonald, who was cleared and whose case immediately followed that of Gray, some enterprising newspaper correspondent sprung the hypnotism theory; the wide publication of the matter came about in this way; no evidence was introduced during the entire trial tending to show that Macdonald had been hypnotized. Gray was convicted upon the ground that he was an accomplice in the murder, that he influenced Macdonald to do the shooting.

I am yours very truly,

R. A. McIlhenny, M.D.

Conway Springs, Kan., January 31, 1895.

THE NATIONAL HEALTH BUREAU.

To the Editor of the Medical Record.

Sir: It is earnestly to be hoped that legislation for the establishing of a national department of health, or a national health bureau of some kind, will not be jeopardized, or entirely defeated, in the present Congress by differences among medical men as to the proper scope and character of the proposed law. The details of the scheme are of minor importance, and it would be well for medical men to waive somewhat of their preferences and endeavor to unite upon that which seems most feasible, rather than divide upon different measures and, by want of unanimity, secure nothing. [The session of the present Congress ends in about four weeks from now, and if no action be taken before March 1st, the question goes over to another Congress, and nothing may be done for two years or more.]

The importance of this measure can hardly be overestimated. Nothing is of more importance than the health of the people, and there is every reason why there should be in the general government a department or bureau charged with the duty of investigating the causes of disease, especially of epidemics, the collecting of statistics of disease, health, and mortality, and reporting upon all facts bearing upon the sanitary conditions of the people. And no one who has had occasion to examine the statistical reports of the health boards in different cities and States of the Union need be told how imperfect, confusing, and unsatisfactory they are. One of the first good results of the proposed department would be something like order and reliability in the reports from different parts of the country in the matter of disease and mortality, instead of the present incomplete conglomeration.

The President of the United States has, in his late message to Congress, recommended the inauguration of a national board of health, "or similar national instrumentality," and a bill to that end is now before Congress. The scope of this bill is none too broad, nor its powers too great, for the work of collecting and collaborating reliable data as to the sanitary conditions in all parts of the country and presenting them in intelligible form as a basis for the action of local health authorities or of Congress. Out of such a department we might expect to grow an institute similar to that founded at Berlin, under a special act of the German government, for experimental investigations in the line of bacteriology. A large part of the work on the antitoxin treatment of diphtheria has been done in that institute, or in connection with it. New discoveries in this direction are certain to be made, and we should have a national laboratory for such investigations. If a national board of health were to give its endorsement to antitoxin treatment in diphtheria, and stand ready to furnish from its laboratory the immunizing serum, then its use in the treatment and prevention of this disease throughout the country would become general, and the neglect to use it, should epidemics of diphtheria occur, would be almost criminal.

Those who have this matter in charge should rouse themselves and push it at once and vigorously in some shape. If we cannot get the ideal measure, let us have what we can get.

Leonard Landes, M.D.

New York, February 2, 1895.

A MAN WITH FOUR TESTES.

To the Editor of the Medical Record.

Sir: In mentioning the following fact to a physician, he asked me to write of it to you, as a matter of interest to the medical profession.

As the recruiting officer of the United States Army at this point, the duty of making medical examinations of applicants devolves on me. In a recent examination of a recruit I found he had, as I supposed, three testicles. Knowing that it would interest a physician, I took the man to one, who found that the fellow was better off yet—he had four. Three were on the left side of the scrotum, and one on the right. They were all apparently perfect testicles, and gave the peculiar pain incident to pressure. Three were large and well-developed, and one, situated high up in the scrotum, was small.

There appeared to be but two spermatic cords, though the two large testicles in the left side seemed connected by a subsidiary spermatic cord, which I suppose would indicate that one was supplied from the other.

Yours truly,

Alex. M. Davis,
2d Lieutenant, Eighth Cavalry,
Recruiting Officer.

Fort Wayne, Ind., January 29, 1895.

THE SIN OF SUBSTITUTION.

To the Editor of the Medical Record.

Sir: Physicians all over the country are complaining of the "sin of substitution" practised by druggists, yet, notwithstanding this universal complaint on the part of physicians, they do not begin to realize the extent to which substituting is indulged in by druggists.

It is impossible for physicians practising in large towns or cities to "follow up" their prescriptions as closely as those who are located in smaller towns, as the former do not meet their patients in a social or casual way nearly so often as the latter; and, indeed, not more than perhaps fifty per cent. of the patients of the busy city doctor are personally known to him, and not one time in a hundred has he the opportunity of knowing whether his prescription accomplished its purpose or not. It is different with the doctor living in a small town; if the medicine he prescribes does not do its work he hears from his patient "in no uncertain tones," and how often have I investigated under these circumstances and found that the medicine prescribed had not been put up by the druggist, but a substitute instead.

Not long ago I had occasion to repeat for a little patient a prescription of elix. pepsin and bismuth; as the little patient and her mother were about to start for a visit to San Francisco and had not the time to have the prescription filled by the home druggist, it was taken to San Francisco and filled by one of the best known druggists of that city. When the mother went to give a dose of the medicine to the child it was

so unlike that which had been previously prescribed that she refused to use it, and on her return home brought the bottle of medicine with her and immediately sent it to my office for examination. I found it to be nothing more than a simple elixir containing a little subnitrate of bismuth and a little powdered pepsin. It might have answered the same purpose as the preparation I prescribed, but it was not what the prescription called for.

Again, not long since I had occasion to prescribe for a child suffering from indigestion, with instructions to have the prescription repeated as long as the child needed it. It was properly filled the first and second times; the third time it was filled it seemed not to have the desired effect, the child got quite sick and I was sent for. I asked to see the medicine and on examination found it not to be what the prescription called for. I sent the bottle to the druggist with a message to put up the preparation my prescription called for, and no other. The patient began immediately to improve, and soon recovered from the attack of indigestion. I afterward found that the druggist had substituted his own preparation, a very good imitation so far as color and general appearances were concerned, but utterly worthless as a medicinal preparation.

I could give many instances such as these that have come to my knowledge, not only in my own practice but also of other physicians, so I think I am correct in presuming that similar substitutions have often occurred when I had no opportunity of tracing them up. My experience with the average druggist leads me to conclude that his reliability is about on a par with that of the butcher and milkman.

Now what is the remedy for this appalling and unfortunate state of affairs? There are two, and I think only two.

First. The physician can keep his own drugs and compound his own prescriptions, but this is possible only with the country doctor or those located in small towns. With the physicians living in large towns and cities it is impracticable and not to be considered.

Second. For the benefit of the city physicians I propose the following plan: Let the physicians form a joint stock association for the purpose of owning and operating a certain number of drug-stores (according to population) in every large town and city, the stock issued by said association to be owned exclusively by the practising physicians of the town or city in which the drug-stores are located. The association to elect annually a board of managers, say of three or five of its members or stockholders, this board to appoint competent druggists to conduct the business of the several stores, the druggists to have no monetary interests whatever in the business, but to depend entirely upon their salaries—this will relieve them from any temptation to indulge in the art of substituting. These stores may carry a general line of druggists' sundries or do only a prescription business, as the association may elect.

I believe this plan will not only solve the vexed question, but will also yield a profit to the stockholders. Of course practical unanimity of action on the part of the physicians of each town or city is necessary for the success of the enterprise.

This plan will also put a stop to the universal habit of counter prescribing indulged in on the part of druggists, which is carried on to an extent beyond any idea conceived of by physicians generally.

Not one case in fifty of gonorrhœa is now treated by the physician, the druggists having completely captured that branch of the business which legitimately belongs to the physician. The same may be said in regard to many other diseases, and I have even known of their making a habit of treating syphilis.

Much more could be said in advocacy of the necessity of physicians associating themselves together for their mutual protection against their archenemy the druggist; but as this article is already longer than I intended, I will leave its further consideration to some other

MEDICO.

CALIFORNIA, February 1, 1895.

ANTISEPTIC TREATMENT OF DIPHTHERIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Discussion is the forceps for wisdom. So then, in answer to Dr. J. L. Proben: The mode of using the soft brush was described in my paper with the words: "which need be only a gentle touch—until complete disappearance of the membrane." This obviously meant without regard to situation. Trauma has, as a matter of fact, never been seen by me. The nose was in one instance, I remember, sterilized in the same manner with a smaller brush. For result in a pharyngeal case see the MEDICAL RECORD of February 25, 1893. That this simple, gentle treatment should yield such invariably good results may at first startle, but should not involve *a priori* condemnation.

CHARLES G. AMENDE, M.D.

266 WEST FORTY-SECOND STREET, NEW YORK.

MALARIA A WATER-BORNE DISEASE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the interest of getting at all the facts, the following questions ought to be answered in connection with, and as a part of, the report made by Dr. E. Kershner, Medical Inspector, United States Navy, etc., in the MEDICAL RECORD, January 5, 1895, viz.:

1. What were the exact dates during which the flagship New York laid respectively at St. Lucia, Rio de Janeiro, and Bahia? 2. What were the distances and locations from shore, and the geographical conditions of the nearest land? 3. What were the prevailing winds and other meteorological conditions? 4. What were the prevailing symptoms of the cases of malarial fever? 5. What were the means of diagnosis resorted to? 6. Were any specimens of blood inspected for the malarial parasite? 7. Are we to understand, literally, that "no one was permitted to go ashore at either of these places," as meaning that no officer, even of any rank, was permitted to, or did, go ashore at any of these places? 8. What, if any, sales, surreptitious or otherwise, were made to the men (including officers) by bumboats, of such drinks as pulque, or other possible native beverages, or milk, fruits, melon, or other vegetables, specifying them and their character? 9. What, if any, aërated waters were purchased and used there, naming brands, and where made?

W. H. DALY, M.D.

135 FIFTH AVENUE, PITTSBURG.

CIRCUMCISION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Referring to the controversy taking place in the recent issues of the MEDICAL RECORD, respecting circumcision, I would say that I am in perfect accord with the opinion of Dr. Levien: that the operation itself should be performed by the physician, or at least superintended by him. I have witnessed a number of these operations, and the want of asepsis or even ordinary cleanliness employed is sufficient to strike terror and apprehension to the physician of to-day, who is accustomed to the neatness and cleanliness of our operating-rooms in the hospitals and in private practice at the present time. That accidents and complications, which are preventable, do occur, and not infrequently, too—of that there is no doubt; these accidents being attended to and treated by the physician who is called in later, and thus the reports do not spread any farther,

or are prevented from reaching the public ear at all. Only recently I was hastily summoned to attend one of these cases; when I arrived, I found the child almost exsanguinated from the loss of blood. The operation had been performed about two hours ago, during which time the neighborhood was being searched for a doctor; the child bleeding profusely all this time. The underclothing and rags covering the penis were soaked with blood; the penis itself being covered with bits of rags, brown paper, solution of iron, etc., and presenting a most pitiable spectacle indeed. The hemorrhage was only controlled after passing a ligature around the penis proper, and the child slowly recovered from the severe shock and loss of blood it had sustained. Such and similar cases occur to almost every practitioner; then, why not have a physician present at the operation who can prevent or intelligently treat such accidents, should they arise, instead of hunting two hours or more for a doctor when they do occur. Certainly our system of the present day should be changed; the religious rite in itself should not be interfered with, but a physician ought to be present at every operation, and if he himself does not perform it, he should see that it is properly performed; that the patient is well cleansed; the genitals scrubbed and washed with bichloride or carbolic solution, the instruments sterilized, and above all the hands of the operator, not forgetting the finger-nails, clean and aseptic.

HUGO KUNZ, M.D.

101 EAST 105TH STREET.

New Instruments.

MODIFICATIONS IN THE OPHTHALMOMETER.

BY FRANK D. SKEEL, M.D.,

NEW YORK.

I WOULD like to call the attention of users of the ophthalmometer to a few minor improvements which I have made upon it in a way of increasing its general convenience.

FIG. 1.—The Eye-Shade.

In place of the flap which was supposed to slide along a wire, but which seldom did so without some considerable persuasion, a shade is made of different shape and is hinged to the centre of the head-rest. It turns upon this hinge to the right or left as desired.

This device is to replace the mechanical monstrosity with which the instrument was originally provided, which required both hands and sometimes more for its proper adjustment. The rod which carries the chin-rest is made hollow and contains the pawl. The ratchet being inside the bracket through which the rod slides. By pressing a button which projects from the rod near its lower end, the pawl is disengaged and the rod may be raised or lowered to its proper place, where it will remain when the button is released. This can be done with one hand.

In adjusting the telescope so as to bring the centre of the corneal image on the cross wires, it has hitherto, been necessary to focus the instrument several times,

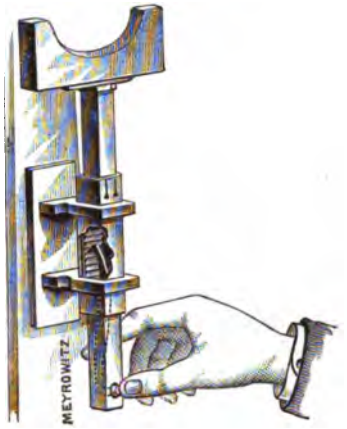

FIG. 2.—The Chin-Rest.

as the turning of the elevating screw instantly throws the image out of focus. The mechanism here described obviates this difficulty. The foot of the tripod base which carries the elevating screw, has a deep

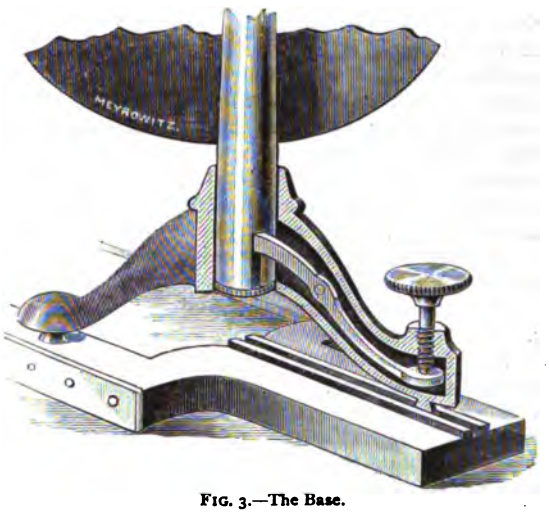

FIG. 3.—The Base.

channel in its under side to receive a lever. The short arm of the lever is acted upon by the screw, while its longer arm extends out under the central upright pillar, which is made to pass through the base. When the screw is turned downward, the pillar with its telescope is carried upward and *vice versa*, the pillar always remaining perpendicular. The focus being once found, is not lost while bringing the image of the mires to the centre of the telescopic field. The instrument as here described is made by Mr. E. B. Meyrowitz, of this city.

361 MOTT AVENUE.

Marion County (O.) Medical Society.—At the annual meeting of the Marion County Medical Society, held in Marion, the following officers were elected for the ensuing year: Dr. Dana O. Webb, *President;* Dr. D. S. Maddock, *Vice-President;* Dr. A. M. Crane, *Secretary;* Dr. H. L. Uhler, *Treasurer;* Drs. O. W. Weeks, W. C. Denman, and F. W. Thomas, *Standing Committee.* A new constitution and by-laws were adopted and signed by the members.

The Union Médicale.—With the beginning of the new year the *Union Médicale* has enlarged its size and transformed itself into a weekly, and has somewhat widened its scope.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 16, 1895.

	Cases.	Deaths.
Tuberculosis	93	136
Typhoid fever	3	8
Scarlet fever	97	16
Cerebro-spinal meningitis	3	2
Measles	79	4
Diphtheria	183	29
Small-pox	1	0

Removal of a Brain Tumor.—At a recent meeting of the Medical Society of London a paper by Dr. Beevor and Mr. Ballance, on "A Case of Subcortical Central Tumor Treated by Operation," was read and discussed. The patient, a woman aged thirty-nine years, had developed certain paralyses with diminution of tactile sensibility with affection of speech. The case was diagnosed as tumor, probably subcortical. Mr. Ballance operated in two stages at six days interval, first dissecting up a flap and removing a parallelogram of bone measuring two and a half by three and a half inches, and then (second step) incising the dura mater. The brain bulged, especially over the upper part of the ascending parietal convolution, and on this being broken through a growth presented itself. This was removed, leaving a cavity two inches deep in the brain. The optic neuritis, headache, etc., at once disappeared, and the patient soon regained tactile sensibility and the power of movement, except in the parts corresponding to the areas of brain removed. The authors held that such cases might be relieved either by total or partial removal of the tumor, by drainage of the tumor, or by incision of the dura mater and drainage. They had ascertained by experiment that mere removal of bone did not exercise much influence on intra-cranial pressure. In the discussion that followed, Dr. Taylor said that partial removal was justifiable, even when only relief of urgent symptoms could be expected. As to the effects of mere removal of bone on the pressure, he remarked that post-mortem examination of unoperated cases of cerebral tumor always afforded unmistakable evidence of pressure under the dura mater, the pressure being less intra-cranial than within the dura mater. Dr. Hale White said that in only about ten per cent. of cases was a radical operation possible, the tumor being too deeply seated, or multiple, or cerebellar. Among several cases of the kind he had met with, was one of a woman who developed a secondary sarcoma of the cortex after removal of the breast; it was remarkable that, though the symptoms pointed clearly to involvement of the arm centre, that area appeared to be quite healthy when exposed to view. He persuaded the surgeon to remove it, notwithstanding, and under the microscope it proved to be the seat of sarcomatous infiltration. So under certain circumstances it was not safe to rely upon the microscopical appearances. Their knowledge of cerebellar tumors was not yet such as to enable them to promise the same relief as followed drainage in cerebral tumors. He mentioned incidentally that such patients usually took the anæsthetic very badly. Dr. Mott asked how the authors accounted for the disappearance of the paralysis and the restoration of tactile sensibility after removal of so large a portion of the brain. Dr. Ormerod mentioned a case of a man who, after suffering from ordinary epilepsy, developed Jacksonian epilepsy with involvement of the arm centre. The brain was cut down upon, and a portion of a growth removed; immediate relief followed, but the man became insane and died, and at the autopsy a large tumor infiltrating down to the base was found. In closing the discussion, Mr. Ballance insisted on the advantages to the patient from even partial removal of such a tumor, and believed the same treatment was applicable to cerebellar as well as to cerebral tumors.

A Defect in Zoological Manuals.—At the meeting of the Association of American Anatomists in New York, Friday, December 28th, under the title "Loose Characterizations of Vertebrate Groups," Professor B. G. Wilder, of Cornell, reiterated a criticism already made in 1880, and in 1885, in his address as Vice-president of the Biological Section of the American Association for the Advancement of Science, viz.: Among characters that are alleged to distinguish groups from one another, some may really be constant and peculiar, but others are constant and not peculiar, others peculiar but not constant, and others neither peculiar nor constant. A marked instance of this confusion occurs in a recent English work. Besides tending to bewilder the student, and even mislead the naturalist, the speaker held that this ambiguity, in such marked contrast to mathematical and even linguistic treatises, prevented the recognition of natural science as a means of mental training and as a requirement for admission to colleges. As a remedy he urged that all Natural History courses embrace the principles and practice of logic, and that writers of manuals and text-books, while not neglecting correctness and completeness, pay more heed to the other commendable c's, clearness and consistency.

The Sleeping Sickness of West Africa.—This curious disease occurs oftener in males between twelve and twenty years of age, although all ages and both sexes may be affected with it. Enlargement of the cervical glands is seen at the onset; drowsiness and actual sleep at unusual hours are followed by profound and lethargic slumber lasting weeks or months. At first active purgation arouses the patient, but later he succumbs to the lethal slumber and refuses all food; emaciation with increasing atrophy, exhaustion, and starvation cause death at the end of from three to twelve months. When moribund, the coma ceases for a short time and the mental faculties are clear immediately before death. The most frequent and virulent cases occur in the valley of the Congo; others from the Congo to Senegal, in the Sierra Leone district, and in the Hinterland. Slaves taken from the Congo or Sierra Leone districts suffer from the disease when in the West Indies, etc. The prognosis is bad. Guérin reports 148 cases, all fatal. Gore says eighty per cent. are fatal. Forbes (*Lancet*) reports 11 fatal cases, also 2 which passed out of observation. At autopsy hyperæmia of the arachnoid and slight chronic pachy- and lepto-meningitis are found; the cerebral substance is pale, indicating anæmia of cortical centres. In one case splenic enlargement occurred, in 2 cases filaria sanguinis hominis were found, probably coincidences. The cause is unknown. Theories are: (1) septic condition of the blood, as suggested by the arrest of development of active glandular elements; (2) presence of filaria, as advocated by Mason; (3) a neurosis affecting the neurotrophic system, Forbes's suggestion. Treatment has proved useless.—*Boston Medical and Surgical Journal.*

The Clock was Non Compos.—A gentleman went to visit a friend who was an inmate of a lunatic asylum. When he had been there about half an hour he looked at the clock and asked if it was right. The lunatic gazed at him with a look of compassion for a minute or so, and then said: "Do you think it would be here if it *was* right, you lunatic?"—*Medical Press.*

A Monument to Dr. James Henry Bennet, the discoverer of Mentone, from a climatological point of view, was unveiled in that place on December 13, 1894.

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Original Articles.

MODERN SURGICAL TECHNIQUE.[1]

By HENRY O. MARCY, A.M., M.D., LL.D.,

BOSTON, MASS.

BACTERIOLOGY has made possible a scientific basis for the formulation of the principles of wound treatment which has revolutionized modern surgery. It has clearly demonstrated the infectious nature of wound inflammation, the fundamental principles of which were first enunciated by Mr. Lister, in 1868.

The demonstration that fermentation, decomposition, and putrefaction were changes wrought by vital rather than chemical forces gave an entirely new phase to the subject of reparative processes in wounds. No chapter in the history of medicine equals in interest or importance the record of the scientific teachings which, step by step, have led to the present evolution of wound treatment. During a larger part of the entire period I have been a laboratory investigator, as well as surgeon, and have often thought that all that was needful in the way of practical teaching had been published, but new phases of the multiple subjects are constantly presenting, and it is of value to review and emphasize the factors of chief importance in operative surgery; since, in the wearisome maze of a seeming endless detail, the real principles may be lost sight of, and disaster follow instead of triumphant victory.

We now find the danger likely to arise from operative procedures not coming, as formerly, from those who do not believe stringent precautions necessary, but the rather from the complicated methods employed by the willing follower of modern teaching, who has but a superficial knowledge of surgical pathology. To be well equipped, the surgeon should have had a careful bacteriological training, since it is impossible to be guided by rules the true basic conception of which he does not understand.

The ritual of surgical technique must be learned in a painstaking manner, that it may become automatic in its application, as much as the speaking of correct English, since, as in speech, the mind should be dominated only by the central thought and not be distracted by detail. When this is true, the disinfected hand will not seek the pocket, the finger the ear or face, and the infected instrument or sponge will be discarded. He who is familiar with septic processes knows how easily infection from what seem the minor causes may occur; especially is this true in the lowered vitality of the cells and tissues of the body enfeebled by disease, when normally they possess a considerable inherent germicidal power. Thus the soil favors the reproduction of the deleterious product, while we all have learned the great variations in virulence which may pertain to the seed.

Experience teaches that several varieties of bacteria reproduce under favorable conditions in a way which seems, at the very onset, to overcome all inherent individual resistance. Hence the importance of a careful study of the various dangers which beset the patient and ever surround the surgeon. It is wise to admit that, by methods based upon present knowledge, we can never be certain that infection will not follow a given operation, and yet, under the present well-systematized régime, this is a very rare occurrence and should be rendered steadily less frequent.

Asepsis may be defined as the production of a condition where there is a complete absence of infectious material, the exclusion of all pathogenic organisms from the field of operation. To Dr. Welch and his assistants of the Johns Hopkins Hospital we are chiefly indebted for the demonstration that certain forms of pyogenic cocci have their normal habitat in the epidermal cells which are in process of exfoliation. It is probable that they serve a very useful purpose in aiding the human economy to rid itself of this worn-out material, but these infected epidermal cells are perhaps the most important of the foes with which the surgeon has to deal. On this account the greatest of all the dangers to the patient lies in the imperfect disinfection of the hands of the surgeon and his assistants, especially the deep parts of the skin beneath the finger-nail. The *contagium vivum* more often than from any, perhaps all other sources, consists in the transplantation of these loosened, infected, epithelial cells. Hence the importance of clean hands. Soap and water, well applied with a brush, will separate the larger share, but the maceration which necessarily goes on during a long operation will loosen many cells otherwise firmly attached, and surgical cleanliness means much more than ordinary washing. It implies a careful disinfection, and to Dr. Robb, of the Johns Hopkins Hospital, we are indebted for the demonstration of the practical sterilization of the hands by their immersion in a warm saturated solution of permanganate of potassium for two to five minutes, and then soaking them in a warm saturated solution of oxalic acid until the stain has completely disappeared. The oxalic-acid solution is, however, the chief disinfectant. The usual careful washing, soaking, and brushing of the hands in soap and water have, of course, been first practised. When the hands have been carefully disinfected, the accidental subsequent infection by contact is easily removed by washing in a mercuric solution of 1 to 1,000, since such material has a comparatively slight attachment to the surface.

Sponges.—Gauze has the advantage of being easily rendered sterile by steam-heating and is entirely trustworthy. This is, however, an imperfect substitute for marine sponges, which with care may be sterilized. After sponges are properly cleansed, they should be soaked in a 1 to 500 solution of mercuric bichloride for twenty-four hours, then carefully dried in a thin, sterilized muslin bag, in which they should remain until required. They should then be carefully washed in sterilized warm water and are ready for use. If they are ever contaminated by pus or septic material, it is better to throw them away. If used only in aseptic wounds, they are cleaned without difficulty and are trustworthy.

Drainage of Wounds.—In pus cases and septic wounds the drainage-tube becomes usually a necessary evil. In aseptic cases the rule should be not to employ drainage. At the best it is a confessed acknowledgment by the one using the drainage-tube that he lacks confidence in his ability to make and maintain a wound aseptic. It is ever, under all circumstances, an open door for the admission of a possible infection, and the later surgical writers so consider it. For years I have

[1] Read before the Mississippi Valley Medical Association, November, 1894.

scarcely drained in one per cent. of all major operations, laparotomies included.

Dr. Robb states: "Whereas a few years ago nearly ninety per cent. of all cases were drained, now we drain only from ten to fifteen per cent., and, indeed, from bacteriological investigations made in a large number of cases, it has been proved that, even under the most favorable conditions and with the personal attention of trained assistants, it is extremely difficult to prevent the access of pyogenic micro-organisms into the tube. We have pointed out that the presence of the white staphylococcus in the skin is a constant menace, where the way to a wound is kept open by a tube, and it was found that the dressing of the drainage cases led almost invariably, after two or three times, to bacterial contamination. Whereas we used to be afraid to close the abdominal wound completely, on account of the danger of sepsis, we now close it in every case possible, and rather hesitate from fear of infection to drain the wound."[1]

Hemorrhage.—In the control of hemorrhage the masters of a previous generation would consider that aseptic surgery had won one of its most brilliant victories. The necrotic processes necessarily supervening in septic wounds made secondary hemorrhage a frequent and dreaded danger. The aseptic ligaturing of vessels, as demonstrated by Mr. Lister, was one of the most valuable contributions ever made to surgery. The corollary to the proposition, the burying of aseptic animal sutures, was of equal importance. By this means hemorrhage can be controlled, and the wound closed layer by layer, leaving no pockets for the retention of fluids, and hence requiring no means for their removal. Thus the drainage-tube may be avoided and wounds securely closed and sealed from further infection. If a wound is aseptic, secondary hemorrhage can never occur. Operations that only a few years since were judged ill-advised at the best, or impossible on account of the fear of hemorrhage, are now done almost without danger.

Sutures.—All aseptic wounds should be carefully closed in a manner to coaptate easily the sundered tissues with the least possible injury to the parts. This is best accomplished by the use of buried continuous tendon sutures, applied so as to hold the parts at rest without constriction. Thus applied, the sutures may be used freely without fear. The stitches should, as far as possible, be taken deeply from side to side, and thus the suture crosses the wound at right angles only. It is surprising to note the amount of suture material which can be easily appropriated by the tissues, if it is aseptic and aseptically applied without undue constriction of the tissues in an aseptic wound. The skin should be closed by a line of running sutures, taken through the deeper layer of the skin, each stitch entering at a point exactly opposite the emergence of the former one. In this way the skin is coaptated without irregularity and its edges lie in exact approximation, without the appearance of the suture in any part of the wound. Thus buried in the deeper layer, it is beyond epithelial contamination. A layer of iodoform collodion, reinforced by a few fibres of cotton, completes the dressing.

For many years all my laparotomies have been conducted in the following manner:

The Patient.—The general condition has been carefully attended to previously. The site of the operative field is carefully shaven and disinfected, and the patient as far as possible is brought into the operating-room enveloped in disinfected clothing.

Operating-room.—The walls and floor are washed the night before the operation with a 1–1,000 solution of mercuric bichloride, and the room is closed. Every article in the room is similarly disinfected. For a long period I used atomization after its disinfecting power was shown to be comparatively unimportant. This I did that by the disseminated moisture all dust might be removed from the air of the surgery. A much simpler way to secure this, which I have since substituted and constantly use, is by the vigorous shaking by two persons of a sheet which has been wet in a strong mercuric solution. This may be seen to fill at once the air of the entire room with finely subdivided particles of water, which in settling take down all dust, so that the entering sunshine conveys no evidence of floating material.

Instruments.—Little need be said upon this subject, since all good operators sterilize their instruments, which is easily done by the use of moist heat. Not seldom does it happen that unnecessary attention to instruments has detracted from far more important considerations.

Instruments wrapped in a cloth wrung from a one per cent. solution of cooking soda (sodium carbonate) and placed in an Arnold steam sterilizer for five minutes, are disinfected without injury. All cotton or linen material used about the patient should be similarly disinfected.

Irrigation of such wounds as are possible is preferred to sponging, since the operative field is thereby kept constantly clean, and the tissues are injured less by a stream of sterilized water than by the contact of the sponge. I am by no means assured that injury results to the walls of the wound from weak mercuric solutions, and I continue to use them as the rule, having seen no serious consequences. In abdominal cases, where usually irrigation should not be practised, I have used for years oxygen gas. The gas is readily managed, as supplied in the small compressed cylinder. It is aseptic, and, rather for ease of judging of the volume escaping than for further purification, I pass the gas through a wash-bottle of carbolic-acid solution. The gas is conducted through a rather thick rubber tube directly over the operative field.

The advantage derived is chiefly in rendering the air about the field of operation aseptic. The gas is heavier than the atmosphere, and thus removes the surrounding air by displacement. The circumscribed atmosphere in a severe case is likely to become contaminated by the breath of the operator and his assistants, although the mouth of each has been carefully washed with a carbolic solution, a part of the preparation which should never be omitted. The chief objection to the use of gas is the complexity of further detail and expense. If, as some may think, of no use, it is surely harmless and not troublesome to manage.

I commenced many years ago, when we all attributed greater danger from atmospheric infection than at present, by using a special machine for conducting warm filtered air, in a constant current, upward from beneath the operating-table. This was serviceable, but required one attendant beside the occupying of room with a clumsy apparatus.

Then I arranged in the surgery a generating machine for the production of oxygen as a substitute. This, however, was uncertain of action and of some possible danger. Upon the easy securing of the highly compressed gas, I have used it, as above described, with the greatest satisfaction for several years.

At times it serves a valuable purpose, where for any reason the respiration is impaired. Twenty-five years ago Sir Spencer Wells taught me the importance to the patient of operating in a hot room. This led me to a careful study of the lowering of temperature, especially in abdominal operations, from the exposure of large surfaces—intestines, omentum, etc.—structures usually retained at a constant high temperature. About fifteen years ago, I constructed an apparatus for the conducting of water, at such temperature as seemed advisable, in a constantly changing current beneath the back of the patient when on the operating-table. This I used for some years, but it was expensive and required constant attention.

I adopted a simple substitute nearly ten years ago

[1] Aseptic Surgical Technique, 1894, p. 116.

which is in present constant use. In a false top to the operating-table is a recess which admits a flat tin tank, holding about three gallons, which is filled with water heated to about 110° F. A folded woollen blanket is placed over this, upon which the patient is laid. After an hour the temperature is plus 100°.

In a considerable variety of abdominal operations where the deep pelvic structures are involved, the adoption of the Trendelenberg position, patient reversed to a considerable angle, gives a natural advantage. Blind surgery is bad surgery, and by this simple measure the entire pelvic basin and its contents are safely under the inspection of the operator. In a very considerable number of laparotomies, I have derived marked advantage from this position. Unfortunately, I have had two deaths which I can attribute to no other cause, and both in young subjects, the autopsies showing no infection and no cause for the unfortunate result. I find upon investigation that several surgeons have had a similar experience. It behooves all of us, therefore, to use this new position with exceedingly great caution, and further investigation is required before we give it general adoption.

Scientific knowledge tends toward simplicity of detail. Emergency operations may be securely and safely conducted aseptically in the homes of even the very poor. The kitchen is usually the room to be selected; first, it is generally the cleanest in the house, namely, freest from dust, has little furniture, few hangings, and usually painted walls. It has its independent heating apparatus and a water-supply. A few minutes suffice to give a clean warm room, free from dust, with plenty of hot water. If the operation must be done at once in a carpeted room with the modern limitless hangings, be sure not to permit sweeping, dusting, etc. The shaking of sheets, as referred to above, will give an atmosphere free from dust, and the spreading of these over the carpet after shaking will prevent the carpet from furnishing any further supply during the operation. The careful use of a large, inflated irrigating rubber receptacle will prevent any soiling of the floor.

The closing of the wound with buried sutures renders safe the sealing of it with a collodion dressing without drainage. This makes it possible to move patients without danger to considerable distances immediately after rather severe operations, if necessary, *e.g.*, a hernia case may be sent home in a carriage and suffer little or no risk.

Summary.—Recognize the infectious material as if it were a visible, palpable element. Based upon such knowledge, enter upon an intelligent sterilization of patient, materials used, instruments, assistants, and by far the most important of all, the operating hands. Having made an aseptic operation, close the wound with buried tendon sutures and seal without drainage. This having been effected, the wound is safe, and the labor, care, and anxiety attendant upon all our earlier operative procedures for the ensuing weeks are entirely obviated. The work is ended when the patient leaves the operating-room. Once mastered, the technique is really easy.

Science has not alone shown the safe and sure way toward recovery, but, as is usually the case, the really, in the end, easy path to pursue. Let the coming century find no practising surgeon who is not master of his surgical technique, as the high priest of a most sacred calling.

Almost unconsciously we are led to think of modern surgical technique as an *art* rather than a *science*. Let us so accept it. Based upon scientific principles, the work should be artistic; a blundering surgeon may be aseptic, but this should never be an excuse for clumsiness. The true surgeon is skilful, which term means so much, full of that skill which makes his work really correctly automatic; like the master of a musical instrument, who through it pours forth the enraptured strains of soul-inspiring, moving power, with never the thought of hand or bow or string.

Anæsthesia and asepsis have brought into surgery a small army of men who lack the training which, half a century ago, was considered absolutely essential to success. Then to be a surgeon meant an apprenticeship. Should it be less at the present time? The greatest danger to-day lies in the willing, enthusiastic, but half-trained recruits with which our ranks are overcrowded. Here as elsewhere comes the law of the survival of the fittest, but at what fearful cost of life, matched, almost overshadowed, by the self-condemnation which permits of no condonement!

The recent address on surgery before the British Medical Association, by Mr. J. Grieg Smith, "The Art of the Surgeon," should be read by every student, by every surgeon. "That the art of surgery is teachable there can be no dispute; that it is worth teaching is still less disputable. Why, then, is it not taught? The art can be taught only in one way, the way of teaching all the plastic arts. The young artist must, while beginning the practice of his art, have a master at his elbow, a master who will guide him in the use of his hand, his eye, and his instruments; who will in the fullest sense make him his pupil and personally lead him on, step by step, toward such excellence in the art as he himself has attained. . . . We might ask to be put on the level with the fine arts, and seek for a Royal Academy of Surgery, as we have Royal Academies of Painting, Sculpture, and Music. To such an academy a school of teachers should be attached. The school would be a surgical hospital with every known excellence of hygiene and nursing and appliance. The teachers would be those who are superior in our art, the pupils men who are already qualified, who seek for practice in the higher walks of surgery! Then let us work for it."

A great art is not builded in a day. We profit from the experience of our predecessors. The coming generation will have much to criticise in the review of our labors. Let them also find themselves indebted to us for much experience of real value in both the science and the art of surgery.

THE TREATMENT OF PULMONARY TUBERCULOSIS WITH CINNAMIC ACID.[1]

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As indicated in the title of this article, it is not my intention to dwell upon the etiology, diagnosis, and pathology of pulmonary tuberculosis. I desire to discuss merely one more recent method of treatment: that proposed by Professor Landerer, of Leipzig, in the year 1891, and which has been in use since that time with but slight modifications and with really remarkably good results.

The favorable results Professor Landerer has published from time to time, and particularly the satisfactory reparative alterations in the diseased lung-tissue which appear to have been attained by this mode of treatment, induced me to give it a trial. Experiments were commenced during my service on the staff of the German Hospital. Afterward lack of material, as well as want of time, prevented me from continuing them. It is only since the end of the year 1893 that I have again been enabled to take up these observations.

I am quite well aware of the fact, that it is impossible to form a conclusive opinion after so short a period of observation, particularly in the case of so obdurate and treacherous a disease as chronic pulmonary tuberculosis.

If I publish my results now it is because, though not as good as those obtained by Landerer, they are still

[1] Read at the meeting of the German Medical Society of New York, December 3, 1894.

sufficiently encouraging, and I have deemed it my duty to call more general attention to a method of treatment which seems to merit extended trial by the medical profession.

The treatment consists of intravenous injections of cinnamic acid. Cinnamic acid can be prepared from gum benzoin, styrax, or Peruvian balsam. As proposed by Landerer, I use only a cinnamic acid which is made out of storax, and which should have the following physical properties: it is an absolutely colorless and odorless, coarsely crystalline powder, very slightly soluble in cold water; soluble in boiling water, alcohol, and fatty oils; the resulting solutions should be absolutely colorless. A cinnamic acid which does not correspond with above physical properties should be rejected.

The cinnamic acid is used in the form of an emulsion, the formula of which is as follows:

℞. Acidi cinnamylici subtiliter pulverisati.....	5.0
Olei amygdalarum.....	10.0
Vitelli ovi.....	No. 1.
Solutio natrii chlorati (0.7 per cent.).....	9.5.
Ut fiat emulsio.....	100.0

To avoid all mistakes, I deem it best to translate literally the original directions regarding its preparation. "Absolute accuracy is a first requisite in a proper preparation of the emulsion. The cinnamic acid is to be rubbed into a fine powder in a mortar, then the powder is intimately mixed in the mortar with a portion of the oil, whereupon the balance of the oil is added; then the yolk of the egg, after being freed from the chalazion, is added to the mixture; after all these have been properly mixed together, the 0.7 per cent. solution of NaCl is added, drop by drop, slowly, and in portions, constantly stirring, until the weight of 100.0 is reached." It is self-understood that all utensils must be previously sterilized.

The emulsion, prepared according to these directions, is in the form of a milky fluid, the color of which, depending upon the color of the yolk of egg used, varies from almost white to light lemon-yellow; its reaction is strongly acid; even after standing quietly for a number of days its consistency should be uniform, and should show neither a deposit of cinnamic-acid crystals, nor should a creamy layer form on the surface. The emulsion keeps well even for a number of weeks, especially if preserved in a cool place. I have used an emulsion four or five weeks old without producing disturbances.

The one thing to be regretted, as may be readily inferred from its composition, is that the emulsion itself cannot be sterilized; but this is not a very great drawback, as a properly prepared emulsion will be sterile even after some weeks' standing.

Before using the emulsion it must first be rendered alkaline. For this purpose a twenty-five per cent. solution of chemically pure caustic soda is used, which should be added repeatedly, as the alkalization takes place but very slowly. To render 2.0 of the acid emulsion alkaline, about five drops of the NaOH solution are required. It is important that the emulsion shall be thoroughly alkaline for the following reasons: The acid emulsion, when examined microscopically, will be found to consist of minute fat droplets, between which the minute cinnamic-acid crystals are in suspension, which latter disappear only after the emulsion has been rendered alkaline; furthermore, an insufficiently alkaline emulsion may cause distressing disturbances.

The following is the apparatus required for a treatment: 1. The emulsion. 2. Twenty-five per cent. solution of chemically pure caustic soda. 3. A good hypodermic syringe, which should not be used for any other purpose. I use an ordinary hypodermic syringe, which I cleanse from time to time with alcohol, and which is always kept in a two per cent. solution of carbolic acid. 4. A few very sharp hypodermic needles, of a rather large calibre. 5. A physiological solution of NaCl (0.7 per cent.). 6. Solution of bichloride of mercury, 1 to 1,000. 7. Iodoform-ether. 8. A short Martin's bandage. 9. Cotton, gauze, bandages, etc.

The technique of the injection proper is as follows: First of all, it is necessary to sterilize by boiling the hypodermic needles and a small vial or dish, in which the emulsion is to be rendered alkaline; now the emulsion is made alkaline, and its reaction again tested with red litmus paper. The syringe is then prepared by aspirating through it repeatedly some normal salt-solution. The patient takes his seat in a proper and convenient position, when the elastic bandage is applied to the upper arm, not too tightly (almost as if for a venesection).

The anterior aspect of the elbow-joint or the region of the vena cephalica is then cleansed thoroughly, first by scrubbing it with bichloride of mercury solution, and afterward washing it with iodoform ether; by this latter manipulation the veins are made very prominent.

After filling the syringe with the required dose, taking care to remove all air-bubbles, it is held parallel to the vein into which we intend to inject; the needle is inserted into the vein through the skin, under a very acute angle, and the contents of the syringe evacuated with but very little pressure.

Just here there is a point which I would like to emphasize, *i.e.*, before evacuating the contents of the syringe, it is necessary to be certain that the needle is well within the vein and is not lodged in one of the coats of the vessel or in the subcutaneous connective tissue. If the needle is in the lumen of the vein, we can feel at once that it moves in a hollow space, and the injected emulsion disappears at once without leaving any trace. If the injection is followed by a slight elevation, it shows that the needle is not within the vein; should this happen, it is best to withdraw the syringe, and to reinsert it at some other point.

A small piece of gauze is placed upon the seat of injection and is fastened by a few turns of a bandage; this bandage may be removed in an hour or two. After the injection the rubber bandage is loosened, and the entire manipulation is completed.

An injection properly executed is painless; occasionally a patient complains of a slight burning sensation, which lasts for a few minutes; an injection improperly executed, however, especially if a part of the emulsion has been injected into the subcutaneous connective tissue, is, as I have had occasion to find out, exceedingly painful; but is not followed by any further untoward symptoms, and may, in a great measure, be alleviated by a Priessnitz's dressing.

In general it may be said that a properly performed injection, provided that an appropriate dosage has been selected, is not followed by any immediately noticeable reaction. Once only did it happen in my own personal observation (in Case V.) that the first injection was followed by dizziness, oppression, nausea, and later on also an involuntary evacuation from the bowels.

It is self-understood that where, as in this method, a substance is introduced directly into the circulation, even such simple manipulations as have just been described may be followed by phlebitis, or other more serious septic infections, unless the most accurate and most painstaking asepsis and antisepsis are observed. It is safe to say, where such unpleasant complications happen, the fault lies always with the operator.

The dosage of each injection is adjusted to the general condition of the patient. In general it may be said that weak and exhausted patients can stand only very small doses. I usually commence with five drops of the emulsion, and rise gradually with half a drop at each injection, until twelve drops are reached, with which amount I continue.

As a rule I allow two days to intervene between each injection; if the patient is very weak, it is preferable to inject every alternate day, but then only very minute doses (five to six drops) are permissible.

Regarding the duration of the treatment, I am not in

position to give a definite opinion from my own personal observation; according to Landerer, the treatment should be continued at least four weeks after the disappearance of tubercle bacilli from the sputum.

Theory of this Method of Treatment.—Cinnamic acid, as well as its salts, as I have been repeatedly able to demonstrate on myself, my patients, and on rabbits, are positively chemoctatic; that is, they have the power when injected into the circulation to produce an increased leucocytosis. This increase in the number of the white blood-cells is noticeable a short while after an injection, and reaches its height about eight hours afterward.

Landerer has investigated, and published in a monograph on the subject, the subsequent process of healing of pulmonary tuberculosis, under the treatment with cinnamic acid. P. Richter corroborated this, and published his highly interesting results in *Virchow's Archiv*, vol. cxxxiii., as follows:

Richter infected nine rabbits by injections with fresh cultures of tubercle bacilli. Three of the animals died within nineteen days, of which two died from distinct general tuberculosis. The remaining six were then treated for six months with cinnamic-acid injections; all of them gained in weight; were then killed at various intervals, and the tubercular organs examined microscopically. His results enable him to divide the process of repair into four stages:

1. The stage of leucocytosis; an aseptic inflammation develops around the tubercular deposits, just as we find it everywhere, as a result of any chemical, mechanical, or thermic irritation; that is, we get a dilatation of the smaller arterioles, an exudation of serum, and an emigration of white blood-cells.

2. The stage of circumvallation, which is noticeable already in the third week; about this time there forms a thick zone of white blood-cells around the tubercular deposit, which shuts it off from the surrounding tissues; at the same time, there begins also an immigration of leucocytes into the tubercle itself; a new formation of blood-vessels is also noticeable.

3. The stage of vascularization; new connective tissue takes the place of the pre-existing zone of leucocytes; from which also new connective tissue and new blood-vessels grow into the tubercular deposits. Tubercle bacilli should have disappeared by this time.

4. The stage of cicatrization and shrinkage; the formerly mentioned new connective tissue is transformed into cicatricial tissue; that is, in place of the tubercular tissue we get a solid and lasting cicatrix.

Cinnamic acid has no effect whatever upon the tubercular deposit itself; the result may be principally attributed to its action upon the surrounding tissues, because it has the power to induce here an aseptic inflammation, which leads to an encapsulation of the tubercle; to a cessation of tissue changes in its interior, and so produces a disappearance and death of the tubercle bacilli.

I have treated until now, by this method, eleven patients; but notwithstanding an exact observance of Landerer's directions, my results are not correspondingly good. According to the statistics which he publishes in the *Therapeutische Monatshefte* (February, 1894), he divides all the cases of pulmonary tuberculosis, with respect to prognosis, into four different groups:

a. Cases of chronic pulmonary tuberculosis, with fairly preserved general nutrition, give an almost absolutely good prognosis and terminate in recovery.

b. Cases with demonstrable cavities, but no fever, give, according to these statistics an improvement in 66⅔ per cent. of the cases.

c. Cases with demonstrable cavities and high temperatures give a bad prognosis; although a subjective amelioration of the symptoms is induced by the treatment.

d. Cases of so-called "galloping consumption" give an absolutely bad prognosis.

If we now observe critically the eleven cases which I have treated, we find that, perhaps with the exception of Case X., not one with whom I would be justified to give a fair prognosis; of the rest nine cases belong to the second group, and one, Case IX., to the third group.

Two of the cases died. In the first, Case IX., the prognosis was absolutely bad from the very start; in the second, Case IV., material improvement followed the treatment, and I felt justified in my view that the case would eventually be cured, but it terminated fatally, through an intercurrent catarrhal pneumonia.

Six of the cases, I., III., V., VI., X., and XI., all showed material improvement. The remaining three cases, II., VII., and VIII., admit no opinion. The duration of the treatment was too brief, as they received only ten, six, and five injections respectively.

Drawbacks of this method of treatment are the minute and certainly circumstantial preparation of the emulsion, and the uncertainty of intravenous injections in general. To obviate these Landerer suggested the use of a five per cent. solution of cinnamate of soda; but its use has not stood the test, neither intravenously nor subcutaneously. Nor have intramuscular injections in the gluteal region, which have been tried by Landerer, been particularly successful, as he states in a personal letter to me in January of this year.

Landerer uses this method, not only in the treatment of pulmonary tuberculosis, but also in the treatment of tuberculosis of other organs; as in the tuberculosis of joints, glands, peritoneum, larynx, lupus, etc. Wherever they can be reached, the cases are not only injected but treated also locally with applications of either a ten per cent. alcoholic solution or suspension in glycerin. In these cases the results seem to be even better than in pulmonary tuberculosis.

Before closing I take the liberty to state that with these facts I lay claim to neither originality nor to brilliant results; nevertheless the results of this method are sufficient to stimulate to further trials.

Following are condensed histories of the eleven patients treated by me. In their perusal, I would call attention of the fact that none of these patients received any internal medication with creosote, guaicol, or allied drugs.

Case I.—S. K——, thirty-two years of age, journalist. Anamnesis: the father of the patient died of pulmonary phthisis. Patient complains since about a year of a very distressing cough, but up to two months he was still able to follow his occupation; since that time the cough is decidedly worse; anorexia, night-sweats, dyspnœa and diarrhœa, as well as a complete breaking down set in; so that he was obliged to be confined to his bed. During the past year the patient lost about twenty-five pounds in weight.

Status præsens on October 10, 1893: Poorly nourished, very anæmic man. Pulse rapid (120); temperature, 104° F. Retraction of the right fossa supraclavicularis; relative dulness over both apices, behind as well as in front, especially, however, on the right side, where the dulness extends down to the fourth intercostal space; here also numerous large and small râles are to be heard; expiration prolonged; bronchophony and bronchial breathing. Furthermore also on the left side complete dulness, which extends up to about one inch above the inferior angle of the scapula; over this part there is also absence of voice, breathing, and vocal fremitus. Numerous tubercle bacilli in the sputum, as well as in the subsequently removed (750.0) sero-sanguineous fluid from the left pleural cavity. Diagnosis: tuberculosis of both apices; tubercular pleurisy of the left side.

Before commencing the treatment the patient consulted a very prominent colleague regarding the advisability of removal to a more suitable climate; his condition, however, was so poor, and the prognosis so bad, that such a course was not to be considered. He re-

mained, consequently, in the city and received, from October 30, 1893, to January 1, 1894, fourteen injections. On December 14th already his condition was so much improved, that, notwithstanding my advice to the contrary, he returned to his occupation. During this time he gained eight pounds in weight; his appetite improved; repeated examinations allowed me to presume a cessation of the process. The number of the tubercle bacilli grew gradually less, so that toward the end I could find only with difficulty a few isolated ones, and even these only with difficulty stainable.

The patient discontinued the treatment on January 1, 1894, and has since followed his occupation, daily from 4 P.M. to 2 A.M.; furthermore, according to his statement, in very poorly ventilated rooms.

On my invitation the patient again called upon me on July 13, 1894. Examination on that date showed him to be fairly well nourished (he gained namely further five pounds). Retraction of both apices; slight dulness, especially on the right side; respiration weak; no râles. Patient, however, is coughing again, and the number of tubercle bacilli has also increased. I advised the patient to recommence the injections; as his time is, however, fully occupied and being naturally careless, he received only eight injections at very irregular intervals. Improvement again followed the injections, but the patient is so irregular in attendance that very much cannot be expected.

CASE II.—J. G——, twenty-five years of age; printer. Anamnesis. Family history is good. Patient perfectly well up to six weeks ago; complains since that time about general weakness, pain in the back and extremities; on alternating days there are chills, followed by high temperatures. A course of treatment with quinine causes these symptoms to disappear. The patient, however, did not feel better and began to complain of a slight cough, which was soon followed by night-sweats.

Status præsens on September 2, 1893: Fairly well nourished young man; the spleen is enlarged; very slight relative dulness over the right apex; no râles.

On October 5th and 6th the patient had two quite severe hemorrhages; after being able to demonstrate a few tubercle bacilli in the scanty sputum, I commenced with the injections, of which the patient received ten from November 8th to December 7th. The night-sweats disappeared, and the general condition also improved markedly, with a gain of three pounds in weight, when the patient left the city and, much to my regret, also the treatment.

CASE III.—B. H——, twenty-one years of age; seamstress. Anamnesis. A sister of patient died of pulmonary phthisis. Patient born in Roumania; was very sickly in her childhood; is a resident of the United States since eight years, and, probably as a result of sufficient and better nourishment, gained so much in weight that a year ago she weighed one hundred and sixty pounds. Complains since two years of a cough and of pain and oppression in the chest, especially behind the sternum; rapid loss of flesh and strength; had numerous small and one rather severe hemorrhage. Was operated upon one year ago in the Mt. Sinai Hospital for a tubercular fistula in ano.

Status præsens on December 24, 1893: Fairly well nourished woman, notwithstanding the alleged loss of weight. Slight dulness over the left apex; on the right side the dulness extends posteriorly as far as the inferior angle of the scapula, anteriorly to the third rib. Respiration diminished and superficial; forced inspirations give rise immediately to a violent attack of coughing; sibilant and sonorous breathing and a multitude of coarse and fine râles; appetite poor; sleep disturbed by night-sweats. Sputum contains a very large number of tubercle bacilli.

The veins of this patient were so poorly developed, that even with a Martin's bandage I could hardly make them sufficiently prominent for a successful injection; consequently I was obliged to be satisfied with intramuscular injections in the gluteal regions. Patient received in consequence from December 24, 1893, to April 8, 1894, six intravenous and twenty-five intramuscular injections.

During this time the patient showed a gain in weight of only one pound; the dulness over the left apex has disappeared almost entirely; on the right side, however, the improvement was but very slight. In the summer of this year the patient was sent to the country by a charitable organization and I saw her but once since, shortly before her return to Roumania, on which occasion I could certainly recognize a distinct improvement.

CASE IV.—F. B——, thirty-nine years of age; butcher. Anamnesis. Family history is negative; gives a moderate history of alcoholism; his previous history has but very little bearing upon his present trouble up to February, 1892, at which time he had an attack of pneumonia; although he recovered, he was still so weak that to recuperate his health he went to Europe for five months and returned apparently entirely recovered. In March, 1893, he returned to his occupation, but soon began to fail again, so that in October of the same year he was again obliged to retire from business. During this time the patient had a number of pulmonary hemorrhages. Since then he complains of a very distressing cough and of pain and oppression behind the sternum; about this time aphonia also set in.

Status præsens on January 25, 1894: Extremely emaciated man. Retraction of both apices; slight dulness in front over the left supraclavicular fossa; on the right side anteriorly there is flatness, which extends down to the fourth intercostal space; posteriorly dulness over the left fossa supraspinata; on the right side again flatness, extending down to the inferior angle of the scapula; below this there is a zone about two inches in breadth where there is normal pulmonary resonance, and below this again dulness. Auscultation reveals sharpened respiration and prolonged expiration over the left apex; on the right side, over the consolidated portions, there was bronchophony, bronchial breathing, and a multitude of fine and coarse râles. Appetite poor. Sleep very bad on account of night-sweats. Body weight, 120 pounds, although one year ago it was still 178 pounds. Sputum almost a pure culture of tubercle bacilli.

On January 25, 1894, I commenced with the injections; after the third injection the patient noticed an improvement so far that he could sleep better, not being disturbed by night-sweats.

From January 25th to May 28th, including an interval of three weeks in April, the patient received twenty-six injections; during this period he improved markedly in every respect; the dulness over the left apex has disappeared almost entirely; on the right side there was dulness over the apex only, but no râles were to be heard; tubercle bacilli in the sputum were so few that I could find them only with the greatest difficulty; the aphonia has disappeared entirely.

At the injection of May 28th, evidently an error crept in in the usual asepsis, as a slight localized phlebitis set in, which obliged me to suspend the injections temporarily.

From July 1st to the 14th, the patient again received five injections; at this time, that is, after five months of treatment (including several pauses) and after thirty-one injections, I sent the patient to the country in a really remarkably good condition; much to my regret he returned within two weeks with a general catarrhal pneumonia, which ended fatally on September 7th.

CASE V.—Mr. J. W——, thirty-five years of age; furniture packer. Anamnesis. One brother and one sister died of pulmonary phthisis; history of an excessive use of alcohol. About a year ago patient had a very severe attack of influenza; since that time he complains of a cough, the accompanying sputum being occasionally bloody; appetite poor; night-sweats; loss of fifty

to sixty pounds in weight during the past six months; loss of strength, so that he was obliged to give up his occupation.

Status præsens on February 2, 1894: Poorly nourished man; color cyanotic; dulness of both apices, especially on the right side, where the dulness extends anteriorly to the third rib, and posteriorly to about one inch below the spine of the scapula. Respiration superficial; coarse and fine râles to be heard on both sides. Numerous tubercle bacilli in the sputum.

Patient received the first injection on February 2d, and as subsequent events showed, I commenced erroneously at once with eight drops of the emulsion; about five minutes after the injection the patient became very pale, and complained of dizziness, so that he fell off the chair; this was followed by an extremely violent attack of coughing and vomiting, and an involuntary passage from the bowels; patient was so weak that he was obliged to remain in my office for over an hour.

On February 6th patient received an injection of eight drops, but intramuscularly in the gluteal region.

On February 12th I again ventured to make an intravenous injection of five drops; this was also followed by an attack of coughing, and I feared a repetition of the symptoms of the first injection; but fortunately it stopped with the coughing.

Since February 2d the patient received nineteen injections, including two in the gluteal region. On April 26th he was sufficiently recovered to return to his laborious occupation (it is self-understood contrary to my advice) and has not again returned for treatment. An examination shortly before that date revealed almost the same physical signs as the first examination, with the exception of the fact that no râles were to be heard, and that the tubercle bacilli were only very few in number and with difficulty stainable. Gain in weight, nine pounds.

Case VI.—Henry V——, forty-one years of age; beer-bottler. Anamnesis. Family history unknown. Patient complains since last August of a cough and irritation of the throat; expectoration scanty; slight loss of flesh and strength.

Status præsens on March 2, 1894: Tuberculosis of the larynx, kindly treated by Dr. Ledermann at the Mt. Sinai Dispensary, at first with lactic acid, later with a ten per cent. alcoholic solution of cinnamic acid. Fairly nourished man. Dulness of the right fossa supraspinata; expiration prolonged; bronchophony and bronchial breathing; occasionally also râles to be heard. Dyspnœa and dysphagia as a result of the laryngeal tuberculosis. In the sputum tubercle bacilli.

Patient received from March 20th to May 6th twenty injections; during this time there was a gain in weight of twenty pounds; subjective and physical improvement also set in; dulness over right apex barely noticeable; no râles to be heard; number of tubercle bacilli decidedly diminished.

Case VIII.—A. G——, thirty-two years of age; violinist. Anamnesis. Family history unknown. When twelve years of age patient had an attack of Asiatic cholera. On September 9th of last year he was operated upon at the Mt. Sinai Hospital for a tubercular lymphadenitis of the neck. Complains since about a year of a very distressing cough; last winter a number of hemorrhages; slight loss of weight.

Status præsens on March 8, 1894: Fairly well nourished man. A small abscess is visible in the cicatrix on the right side of the neck. Dulness anteriorly as well as posteriorly over the right apex; expiration prolonged; a few moist râles as well as pleuritic friction sounds are to be heard; the voice is hoarse, but with the exception of a chronic pharyngitis there is nothing abnormal in the throat.

Patient received from March 14th to March 30th (at which time he left the city) six injections; during this time there was a gain of four pounds in weight; the physical signs were the same as at the first injection, but no râles were to be heard.

Case VIII.—J. J. P——, twenty-nine years of age; carpenter. Anamnesis. An aunt of patient died of pulmonary phthisis. History of the abuse of alcoholic stimulants and cigarettes. Previous health good up to two years ago, since which time he complains of a cough, at first dry, later with abundant expectoration, occasionally mixed with blood; since last October a loss of fifteen pounds in weight.

Status præsens on March 12, 1894: Poorly nourished, very anæmic man. Dulness over both fossæ supraspinatæ and fossæ supraclaviculares, especially on the right side. Respiration sharpened; râles to be heard on deep inspiration; numerous tubercle bacilli in the sputum.

Patient received from March 14th to 27th five injections; during this time there was a decided improvement in the general condition of the patient, but with the exception of a diminution in the number of the tubercle bacilli no physical improvement was noticeable.

Case IX.—M. G——, twenty-four years of age; housewife. Anamnesis. A sister of patient is now suffering from pulmonary phthisis; another sister has a lupus of the nose. One year ago patient had an attack of pleurisy on the left side; since that time she complains of a cough, at first dry, later with abundant expectoration; never any hemorrhages; no night-sweats; anorexia; great loss of weight; since four weeks obliged to stay in bed.

Status præsens on July 6, 1894: Extremely emaciated, very anæmic woman. Marked retraction of both apices, especially on the right side; dulness over both apices extending anteriorly down to the fourth intercostal space and posteriorly to the spine of the scapula. Respiration superficial on the left side; on the right side bronchophony and bronchial breathing, and numerous coarse and fine râles; dyspnœa. Rise of temperature every evening up to 105° F.; sputum almost a pure culture of tubercle bacilli.

Patient received from July 6th to August 13th eleven injections; at no time was there even the slightest improvement noticeable, with the exception of the fact that the evening temperatures did not rise quite as high.

The prognosis in this case was from the very start so bad, that only with the greatest reluctance could I be prevailed upon to give the patient the benefit of the doubt and to commence with the injections; during the course of the treatment, also, I was several times on the point of discontinuing them, but the patient flattered herself that she felt better after each injection; I was, therefore, morally compelled to continue them until exitus lætalis occurred on August 15th.

Case X.—H. H——, thirty-two years of age; druggist. Anamnesis. Family history good; previous health always very good. Patient first complained of night-sweats in the middle of the winter 1893 to 1894. Patient, an intelligent man, dates his trouble exactly from April 25, 1894, at which time he commenced to complain of a dull pain and a peculiar oppression along the sternum and in the larynx; coughs since about a month; never any large hemorrhages, but the sputum was frequently streaked with blood. Loss of seventeen pounds in weight during the past two months.

In this anamnesis I would call especial attention to the fact that I was able in this case to trace exactly the source of infection. Patient, previously perfectly healthy, married a year and a half ago a young Spanish woman (whom I later also had occasion to examine), in whose family several near relatives died of pulmonary phthisis and who is herself decidedly phthisical.

Status præsens on July 22, 1894: Fairly well nour-

ished man, notwithstanding the alleged loss of seventeen pounds in weight. Retraction of the right apex; anteriorly over this portion of the lung the percussion is of fair quality, but the pitch is somewhat higher and the duration shorter; posteriorly there is dulness; the breathing is tubular; on deep inspiration a few râles are also to be heard; swelling of the right arytenoid cartilage; a small ulcer is visible on the right half of the free border of the epiglottis. In the sputum tubercle bacilli.

Patient received from July 14th to August 18th twelve injections; furthermore I also painted the larynx with a ten per cent. alcoholic solution of cinnamic acid. The tubercle bacilli have disappeared entirely, and the ulcer on the epiglottis has healed. During the twenty-five days of actual treatment there was also a gain of fifteen pounds in weight.

On August 20th the patient left the city for Mexico; occasional letters from him bring me the news of continued good health.

Case XI.—V. M——, twenty-six years of age; waiter. Anamnesis. Family history is negative. In the winter of 1892 to 1893 patient had a number of pulmonary hemorrhages, and again in July, 1893, and in February, 1894; after this his health was fair up to July of this year, at which time he again had a number of small hemorrhages. Complains of pain in the left side of the chest, dyspnœa, and cough; since some time also night-sweats. Loss of weight, ten pounds.

Status præsens July 22, 1894: Fairly nourished man; color cyanotic. Retraction of the left apex; dulness anteriorly as well as posteriorly, especially the latter. Respiration shallow, soft, and blowing; on deep inspiration a few râles are to be heard. In the sputum tubercle bacilli.

Patient received from July 24th to September 10th sixteen injections; during this time the general condition of the patient improved so much that he could undertake quite laborious work. Gain of ten pounds in weight. Patient discontinued the treatment on September 10th, and felt very good; his physical signs also improved so much that a colleague who examined him about that time could barely tell which portion of the lungs was affected. I regret to state, however, that I received lately the news that he again had some hemorrhages, but he refuses treatment.

364 West Fifty-fifth Street.

VAGINAL CŒLIOTOMY.

With Remarks on the New Field it Opens up for the Treatment of Backward Displacements of the Uterus with Diseased Annexa by Vagino-fixation.

By HIRAM N. VINEBERG, M.D.,

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In a recent paper[1] on the indications of vagino-fixation, I stated that when one or both annexa were diseased, calling for removal, cœliotomy and ventro-fixation, rather than vagino-fixation, would be indicated. Some recent experiences have shown me that I drew the lines of indication entirely too narrow, and that the field of the operation may include the majority of backward displacements with adhesions and diseased annexa. The operation, therefore, is likely not only to supplant Alexander's operation, but to take the place of abdominal cœliotomy and ventro-fixation in a great number of cases. When I first began doing vagino-fixation, over fifteen months ago, I was struck with the ease with which I could, in the majority of cases, deliver the fundus of the uterus through the vaginal wound. I was thus enabled to pass the uterine sutures with the aid of sight, and to pass them as near the fundus as I desired. Judging from the description of the operation by Mackenrodt, Dürrsen, and Winter, this was not an unimportant modification. These operators did not bring the fundus out through the vaginal wound, but passed the uterine sutures with the uterus in the vesico-uterine space, and consequently were compelled to rely chiefly on the sense of touch. While performing the operation it frequently occurred to me that I could easily tear through the fold of peritoneum between the bladder and uterus (as I had frequently done without intention), and draw one or both annexa out through the vaginal wound if I so wished. But as I had operated only in cases in which the annexa were apparently healthy or slightly diseased, I did not care to submit my patients to any extra risk by attempting an unnecessary manipulation within the peritoneal cavity. However, since the agitation of the past few months in favor of selecting the vaginal rather than the abdominal route for work in the lower part of the peritoneal cavity, I determined to put to the test the feasibility of carrying out the idea I had long entertained. An opportunity presented itself to me on November 25th. I was doing a vagino-fixation for complete retroflexion.

The patient, twenty-eight years of age, was married nine years, had a child a year later, and a miscarriage at three months, five years ago. Since the miscarriage she has had backache, pain in both groins extending down the thighs, painful menstruation, and a number of other complaints referable to her pelvic lesions. The uterus was in complete retroflexion, both annexa prolapsed, and I was not certain but that I made out some thickening of the distal end of the left tube. After bringing the uterus, or rather the fundus, out at the vaginal wound, I passed a temporary suture through it and gave it to my assistant, asking him to make gentle but steady traction toward the right side. With the index and middle fingers of my left hand I readily delivered the left tube and ovary through the wound. I inspected them carefully, and finding them to be apparently healthy, returned both within the peritoneal cavity. The assistant was then asked to draw the fundus over to the left side, and with the index and middle fingers of my right hand I caught hold of the right annexa, but did not deliver them, which I could easily have done, as they presented nothing abnormal to the touch, and as the room in which I was operating (a tenement-house) was growing very cold. At no time did any bowels come into view, nor did any come into contact with the operator's hands. Vagino-fixation was then done in the usual way, and a Tait's operation for laceration of the perineum. The whole series of operations—1, curettage, 2, inspection and exploration of the annexa, 3, vagino-fixation, 4, Tait's perineum—did not consume more than an hour. The time is mentioned only to show how expeditious the method is, and not as an important consideration. The patient has had absolutely no reaction. Pulse 84, and temperature not going above 99° F. The only complaint made was slight pain in the perineum, from the stitches, for the first few days.

The second case in which I did a vaginal cœliotomy was on November 28th, on an inmate in the Montefiore Home for Chronic Invalids. It was for a complete retroversion and a subperitoneal fibroid the size of a seckel pear, attached to the anterior aspect of the fundus. The patient had entered the Home eighteen months previous for a gastric ulcer, from which she recovered in a short time under proper diet and treatment. But she remained in the Home owing to her inability to work on account of backache, profuse and painful menstruation, and "falling of the womb" (a large rectocele the size of a turkey's egg). The usual longitudinal incision in the anterior vaginal wall for vagino-fixation was made, the vaginal flaps dissected from the bladder, then the bladder was dissected from the uterus, and the vesico-uterine fold of peritoneum cut with scissors. The uterus was next drawn downward and forward by climb-

[1] New York Medical Journal, October 27, 1894.

ing up its anterior wall with three successive provisional sutures. The small fibroid then began to come into view and was easily seized by a volsellum, and taking hold of it with another volsellum, it was readily delivered through the vaginal incision. The capsule was incised and the tumor enucleated from its bed in the fundus, the resulting defect in the uterine wall being whipped over by a continuous catgut suture. The uterus was then vagino-fixated by three silk sutures and the vaginal wound closed in the usual way. The rectocele was next disposed of by an Emmet on the posterior vaginal wall. No reaction whatever as a result of the operation. Temperature only once reached 100° F.; pulse never above 84.

The third case was done at the Post-Graduate Hospital, on December 8th. The patient came from Meriden, Conn., and was referred to me by a former patient. She came to this country from Russia eighteen months ago, her husband having preceded her by three years. Married nine years, three children, last child five years ago. Well until coming to this country, shortly after which began to suffer with metrorrhagia, painful and frequent micturition, backache, pain in the left groin, and pain in various parts of the body. In spite of constant treatment she has been steadily growing worse. Two months ago curetted by the local physician; much worse since then.

On examination she presented the following local conditions: A fairly-sized rectocele and cystocele, an extensive bilateral laceration of the cervix, with considerable hypertrophy of both lips. The body of the uterus was forward, slightly enlarged, and quite sensitive. The left tube at its distal end was the thickness of a lead-pencil, and was adherent to the side of the pelvis. Left ovary small but very sensitive. Right annexa apparently normal. On being told to press down, the rectum became prolapsed for the distance of two inches and presented numerous hæmorrhoidal elevations. Examination of the bladder by Kelly's method showed the interior of the organ to be studded with patches of hyperæmia, and erosions most pronounced at the sphincter vesicæ. Thorough curettage removing considerable granulation tissue. The usual anterior longitudinal incision. Dissection of vaginal flaps from bladder, separation of bladder from uterus. Vesico-uterine fold of perineum torn through with index-finger, fundus brought to the vaginal wound by provisional climbing sutures. With index and middle finger of left hand broke up adhesions holding down tube. Delivered tube through vaginal incision. The fimbriæ distinct and ostium patent. Distal end thickened and congested. Then delivered left ovary in the same manner. It was rather small and showed several small cysts on its surface. These were incised with the scalpel and a clear yellowish fluid escaped. Both tube and ovary then returned within the peritoneal cavity. Right annexa palpated with index and middle fingers of right hand. Nothing abnormal detected, and they were not drawn out. After resecting a strip from either vaginal flap, thus doing an anterior colporrhaphy, vaginal wound sutured in the usual way. Amputation of the cervix. Colpo-perineorrhaphy. Forcible dilatation of rectal sphincter and removal of hæmorrhoids by clamp and cautery. Duration, ninety minutes. Patient next day very comfortable; no reaction. Temperature, 99° F.; pulse, 78. This patient as well as the other two have rapidly convalesced from the operations, without one untoward symptom, and could have been up and about in a week as far as the operation within the peritoneal cavity was concerned.

Quite lately a paper by Dührssen came into my hands, in which he reports a number of cases in which he followed somewhat the same method. He terms it "vaginal cœliotomy," an appropriate term to my mind, and I have adopted it. Dührssen makes a transverse incision in the anterior vaginal fornix and delivers the fundus and annexa through it. I deem the transverse incision, however, less advantageous than the longitudinal. It does not afford so much space, and it does not allow of fixating the uterus in as favorable a position. In a few cases Dührrsen experienced very great difficulty in returning the fundus into the peritoneal cavity. This difficulty does not occur with the longitudinal incision. It offers a further advantage in the feasibility of making a more extensive separation of the bladder from the uterus and broad ligaments.[1] In doing a vagino-fixation on the cadaver, some time ago, and then opening the abdomen, I found that the bladder was completely separated from the uterus and broad ligaments, and was overlying the fundus of the uterus. This free separation of the bladder carries the ureters well forward and removes any risk of including them in any ligature that may be tied.

In my opinion the anterior longitudinal incision possesses many advantages over the transverse incision in the posterior vault for salpingo-opherectomy: 1, There is less hemorrhage, and such as occurs is under better control; 2, it affords more room; 3, there is no danger of cutting into the rectum; 4, there is less likelihood of coming into contact with the intestines in doing the necessary manipulations.

To me there seems to be almost no limit to the amount of work that can be done through the anterior longitudinal incision. If necessary in order to gain more room, the vaginal flaps can also be incised transversely, and the whole hand could readily be introduced into the abdominal cavity. It has also occurred to me how easy it would be to do a hysterectomy in this manner.

In the three cases above narrated it would have been exceedingly easy to ligate the ovarian arteries from above, and the remainder of the operation would have been less than easy. In following the enucleation method, it seems to me, it would also be much simpler and easier to do so from the fundus downward with every tissue in sight, than cutting from below upward in the dark, and not being able to tell when you are cutting into the uterine tissue or keeping outside of it in the so-called vascular sheath. The next opportunity that I have, I intend doing a vaginal hysterectomy by this method.

The importance of being able to substitute vaginal for abdominal cœliotomy cannot be over-estimated. I say this in spite of the fact that I have been exceedingly fortunate in my recent abdominal work. During this year (1894) I have performed 26 abdominal cœliotomies consecutively without a death. These were done for various conditions—large ovarian cancer, 1; ovarian cysts, 3; hysterectomies for fibroid tumors, 2; double pyosalpinx with extensive adhesions, 5; tubo-ovarian abscess, 4; ovarian abscess, 2; salpingo-oöphoritis with adherent retroverted uterus, 5; pyosalpinx unilateralis, 3; appendicitis, 1. They were performed under varying surroundings — Post-Graduate Hospital, St. Elizabeth's Hospital, and Montefiore Home for Chronic Invalids. In many of them the abdominal wound healed by primary union, in others again convalescence was retarded by stitch and mural abscesses of more or less severity. With some exceptions, the patients for the first few days underwent considerable misery from vomiting, thirst, and flatulence. In none has a ventral hernia followed thus far. In two, after a completely smooth convalescence and primary union, small superficial fistulæ, difficult to heal, developed some months afterward, though I used nothing but catgut within the abdomen, and only once a non-absorbable buried suture. I have made it a point to follow up my cases, and I see many a post-operative case in an extensive dispensary practice (embracing over sixteen hundred new cases in a year) that are lost sight of by the operators themselves. I am safe, there-

[1] Dührssen recently reported (Klin. Vort., September, 1894) a case in which, with the transverse incision, he accidentally divided the right ureter. Such an accident could not occur with the longitudinal incision.

fore, in saying that my results, immediate and remote, will compare favorably with those obtained by most operators. None of what is gone before is said to disparage abdominal work. Many of the cases operated on could not have been operated on except by the abdominal route, and were saved either from a fatal disease, or one which was rendering life miserable or forming a burden to the victim and her surroundings. The disadvantages mentioned were a mere bagatelle compared with the great gains in life-saving and health that were achieved. Nevertheless, if these disadvantages can be avoided we owe it to the humane office of our calling, and to our patients, to strain every nerve to accomplish that desideratum. I may frankly say that the vaginal route does not make it any easier for the operator. On the contrary, it is a method which makes it harder for the operator, but much easier for the patient.

One has only to compare a few cases treated by the abdominal and vaginal routes, respectively, to be convinced of the truth of this assertion. The advantages of the vaginal route may be stated briefly to be the following:

1. It opens up a smaller avenue for the introduction of deleterious germs. None but the operator's hand need come into contact with the peritoneum and intestines.

2. There is less manipulating of the intestines. In some instances, as in my three cases, they do not come into view, nor in contact with the operator's hands and instruments.

3. The absence of those distressing symptoms, such as thirst, vomiting, flatulence, etc., during the first twenty-four, forty-eight, or seventy-two hours, which may follow the simplest and most skilfully performed abdominal cœliotomy.

4. The avoidance of stitch and mural abscesses.

5. The avoidance of the subsequent occurrence of ventral hernia and troublesome fistulæ.

6. The absence of an external and skin cicatrix. This is more than merely an æsthetic gain. I have seen more than a few patients during the year in whom the cicatrix, though primary union had taken place, gave trouble by being painful, and showing from time to time an angry, red, and swollen appearance.

This is one side of the picture. But the trite saying, "There is nothing perfect under the sun," applies also to the vaginal method. It has its disadvantages. These, however, may be summed up in the one proposition—the greater difficulty of doing the operation—which has already been touched upon. But this, no doubt, will in a great measure be overcome by larger experience and more perfect technique. The danger from meeting with hemorrhage difficult to control is not, in my opinion, very great. This is a point, however, which further experiences will determine.

Another great gain of the vaginal method not yet touched upon is that it opens up a large field for conservative surgery upon the uterus and annexa. The cases of backward displacements, with more or less disease of the annexa, one meets with in public and private practice, form a very large percentage of the cases one is called upon to treat.[1] A conscientious and conservative person hesitates, in many of these cases, to open the abdomen and do what is commonly known as conservative surgery. One weighs the complications which may follow in the trail of a wound through the abdominal parietes. He resorts to curettage, electricity, ichthyol tampons, hot douches, pessaries, etc. He tells his patient she must expect to suffer more or less pain and be content to submit to treatment for a lengthened period, unless she is willing to undergo an abdominal section, which naturally carries with it some dread to the lay mind. Now, if by a method which does not call for an external incision, the backward displacements can be permanently cured, the annexa brought into view and treated upon conservative lines, and with no greater danger or risks, if aseptically done, than attach to a curettage, where is the person who will not urge or avail himself of that method?

The writer needs scarcely to add that he does not wish to be understood as advising vaginal cœliotomy or vagino-fixation in every case of retroversion of the uterus, and in every case of salpingo-oöphoritis. In many cases the palliative treatment above referred to will prove sufficient. But there will be a fair percentage of cases in which it will fail even after a faithful and intelligent trial. It is in these cases in which palliative treatment has failed that he would urge the method described in this paper. He would also urge it in most of the cases of pyosalpinx and ovarian abscess met with, which have hitherto been treated by abdominal cœliotomy. It would be well, however, until our experience increases and our technique improves, to have our patients and ourselves prepared for an abdominal cœliotomy in the event of our failing to remove the diseased annexa by the vaginal route. The attempt, in the event of failure, would not in the least add to the dangers of the abdominal cœliotomy. Still the writer believes the cases would be few in number in which an operator with any experience in working through the vaginal route would fail.

NOTE.—Since the foregoing was sent to press I have done vaginal cœliotomy on four further cases. In one case both annexi were removed, as they were hopelessly diseased, the patient leaving the hospital fourteen days afterward. In another case of retroversion with long-continued backache and pain in both groins, the annexi were drawn out through the vaginal incision for inspection. The tubes were found in a fairly good condition, but the ovaries presented a number of cysts, one of which was excised and the remainder punctured. Both annexi were then returned within the peritoneal cavity. Convalescence was perfectly afebrile and satisfactory.

197 EAST SIXTY-FIRST STREET.

[1] Of 2,500 cases in my dispensary practice during the past eighteen months, there were 452 cases of retroversions and flexions, the majority of these being complicated with adhesions and disease of the annexa. When we deduct the cases of pregnancies, 295, and the cases which were negative, 210, as far as statistics are concerned, we have a percentage of 22.65 of the total number of cases with pelvic affections.

REPORT OF CASES OF OPIUM-POISONING, SUCCESSFULLY TREATED BY PERMANGANATE OF POTASSIUM.

BY WILLIAM MOOR, M.D.,

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IN the following I shall give a brief account of some cases of opium-poisoning which were reported to me, one of them having occurred in my own practice.

CASE I., reported by Dr. T. S. Buist, of Charleston, professor of surgery in the Medical College of South Carolina.—On February 13, 1894, at 12 M., I was called in haste to see a young woman (white), nineteen years of age, who had taken, by accident, one and a half ounces of laudanum. The poison had been taken at 10 A.M. The first medical aid arrived at about 11 o'clock. Condition upon my arrival: Pupils of both eyes contracted to the finest possible point, eyes dull and glassy, dropping of eyelids; insensibility to external impressions, pulse slow and intermittent, respiration slow and labored; almost utter inability to sustain the body upon the limbs. At once a hypodermic injection of one-sixtieth grain of atropine was given, and the result watched with the utmost interest. At the end of thirty minutes all symptoms were aggravated. I ordered as soon as could be procured: Potass. permang. gr. vj.; Aq. destill. ℥j. At 12.45 I injected ten drops of this solution in the arm. In ten minutes the patient's locomotion improved. In fifteen minutes she spoke and begged to be allowed to sleep. Pulse

stronger, respiration more regular. Allowed to rest in a chair for five minutes, profound sleep coming on. Patient aroused and ten drops of the permanganate solution introduced in the other arm. The effects in ten minutes were wonderful. Susceptibility of the pupils to light manifest, consciousness returned. Patient in fifteen minutes hysterical and crying; pulse, 76, respiration, 20 per minute. By six o'clock in the evening all symptoms had passed away and a complete recovery was the result.

CASE II., reported by Dr. Edwin De Baun, of Passaic, N. J.—On March 3, 1894, at two o'clock in the morning I was awakened by a man who told me he had swallowed seven grains of morphine by mistake for quinine, a half hour before. While relating his experience at first he seemed very lucid, but on further questioning him, his speech became thick and he began to sway from side to side, and implored me to be quick, as the drug was taking rapid effect. I told him to walk about the room, while I went to the inner office and prepared twenty grains of the sulphate of zinc in solution. On returning I found my patient on the floor on his hands and knees trying to keep his head from striking the floor. I raised him, gave him the sulphate of zinc, sat him on a chair and returned to the office for permanganate of potassium. I dissolved ten grains of it in half a glass of water, which only took a few minutes, and when I again returned to my patient, he was lying on his back on the floor, having fallen from the chair where I left him. I administered the permanganate solution, again raised him and placed him upon a chair where I couid watch him, while I telephoned for Dr. A. C. Pedrick and sent for two policemen, who took the man into the open air. In the meantime the stomach-pump was made ready. After walking the man a short distance, he went so rapidly under the influence of morphine, that they were obliged to carry him back. We sat him on the back stoop and by this time Dr. Pedrick arrived, and together we tried the time-honored stomach-pump, which of course did not work. We gave him twenty grains more of the sulphate of zinc, which did not act. In a few minutes the man was in a profound stupor, and nothing but the severest handling could arouse him, and then only to elicit a groan, there being no voluntary motions. It was now impossible to administer any medication by the mouth. Therefore we determined to wholly rely on the efficacy of the permanganate of potassium, hypodermically. Three grains were administered by means of a two-drachm aspirator, thinking that the more dilute the solution, the less irritating to the tissues. The first hypodermic was administered one hour and a quarter after the morphine was taken; the second hypodermic in fifteen minutes, and the last hypodermic fifteen minutes later, using in all hypodermically nine grains, which made a total of nineteen grains. It was not until the last hypodermic that he showed signs of voluntary motion, and this was only evinced by raising his leg and scratching it. He soon regained consciousness, and was able to answer questions intelligibly, although when left to himself each time would lapse into a sleeping condition, from which it was difficult to arouse him. He was taken into the house and one-half hour later was able to walk with the assistance of the two policemen. He was now walked to Dr. Pedrick's office, a distance of about five blocks, where he stayed during the remainder of the day, and made a rapid recovery.

The fact that the emetic did not act, and the stomach-pump did not work, and as it was impossible to either walk the man or arouse him by violent manipulations, shows conclusively that the permanganate of potassium must have saved his life.

Before reporting my own case I shall give an account of some animal experiments, the reason for which will be readily understood. As the reader has noticed the permanganate in Case I. was administered only hypodermically. In a private letter which Dr. Buist directed to me he refers to some reports regarding animal experiments I undertook. Those reports were premature, and I must confess I was surprised when I heard of Dr. Buist's case and of other cases in which the antidote apparently was effective even if given hypodermically. Still I remained sceptical and left it to comparative experiments to determine whether or not the much-discussed chemical body had any antidotal virtues with regard to opium if administered hypodermically.

As to those premature reports alluded to, the simple truth about them is as follows: Having found that the antidote would select morphine in the presence of albumin and other organic matter (see MEDICAL RECORD, February 17th), it came to my mind that this selective power would also manifest itself upon morphine which was held in solution by blood, the latter being principally a solution of albuminous matter in water, and that, therefore, intravenous injections of the antidote might be useful in cases of opium poisoning. In order to substantiate this idea I gave a good-sized rabbit a hypodermic injection of one grain of morph. sulph., followed in fifteen minutes by an intrajugular injection of three-fourths of a grain of potass. permang. (1 to 15), and sixteen minutes after this by another intrajugular injection of one-third of a grain of $Mn_2O_8K_2$. Two hours after the initial injection of morphine, the animal's respiration was 46 per minute, rising to 48 after three hours more.

Another rabbit of the same size also received one grain of morphine but no intrajugular injection of permanganate. Thirty minutes later the animal's respiration was 14 to the minute and one hour after this only 12. Five hours after the injection of morphine the animal still breathed only fourteen times per minute.[1]

To determine the value of hypodermic injections of permanganate in cases of opium-poisoning I used four good-sized rabbits, each weighing about three and one-half pounds (avoirdupois)—1,585 grammes. By giving them hypodermic injections of morphine followed by injections of potassium permanganate, and at a subsequent period only injections of morphine, I was able to draw conclusions as to the value that hypodermic injections of the antidote would have on morphine that was absorbed into the circulation.

RABBIT I.—Received two grains of sulphate of morphine hypodermically at 9.22 A.M., March 1, 1894. Respiration extremely rapid, from fright. At 9.28 I injected four grains of $Mn_2O_8K_2$ in one drachm of water. At 9.32 respiration 120 per minute. At 9.45 the animal is semi-lethargic, but his ears are erect; breathing a great deal slower (50 per minute). After this his breathing gradually improved, being 64 at 10.12, and 60 at 10.22 A.M.; 10.26 A.M., injected two grains of potassium permanganate in one drachm and a half of water; 10.36 A.M., respiration, 76, semi-lethargic, ears erect; 11.15 A.M., respiration, 76; 12.40 P.M., respiration, 153; 1 P.M., respiration, 160; 1.25 P.M., respiration, 150; animal struggling vigorously if held suspended by the ears, general appearance of the animal not lethargic; 2 P.M., power of locomotion begins to return; 2.30 P.M., locomotion much improved; 7 P.M., locomotion entirely restored; 11 P.M. respiration exceedingly rapid, about 200.

March 2d, 8 A.M. The animal drinks water with avidity and takes food; is quite lively; respiration normal (95).

RABBIT I.—Injected two grains of morphine sulphate on March 4th at 1 P.M. At 2.45 P.M., the animal is in a completely lethargic condition; respiration, 26 per minute. At 3.25 P.M., slower, 22; 4.20 P.M., respiration, 21; 5.10 P.M., the same. At 5.50 P.M., the animal is still unable to move voluntarily, but breathes somewhat faster (24). At 7.45 P.M., the power of locomotion begins to return, breathing easier

[1] The normal respiration of rabbits is seventy to ninety per minute. The intravenous injection of the antidote, therefore, was unquestionably of benefit to the animal thus treated.

and quicker, being 70 per minute. At 11 P.M., the breathing is somewhat slower (62).

March 5th, at 8 A.M., the condition of the animal is about normal.

Thus we see that the administration of $Mn_2O_8K_2$ resulted in a decided improvement in the breathing and general condition of the animal. The difference between the results of the two experiments as regards the number of respirations per minute is certainly striking. The heart-action in these two instances and also in the following experiments did not offer any characteristics:

RABBIT II.—Injected on March 2d, at 9.14 A.M., two grains of sulphate of morphia. Respiration, 170; 9.18 A.M., animal is somnolent, lies flat on its abdomen, ears flat on the back; 9.20 A.M., respiration, 31; 10 A.M, respiration, 22; the animal is perfectly motionless if suspended by the ears; 10.8 A.M., injected three grains potassium permanganate (1 to 15); 10.16 A.M., injected three grains more of the potassium salt; 10.22 A.M., respiration, 32; 11 A.M., somewhat less (30); moves about at times; 12.15 P.M., breathing slow (16); 12.25 P.M., injected two and a half grains of permanganate; 12.40 P.M., breathing improved (27); the animal struggles quite vigorously if held by the ears; is much less lethargic; moves about voluntarily; 12.50 P.M., respiration, 34; 1.20 P.M., animal moves about if put on the floor, power of co-ordination quite fair, tries to escape when approached; 1.45 P.M., breathing faster (38), regular; 2 P.M., respiration, 45, regular; locomotion normal; hardly any signs of lethargy; 9 P.M., respiration, 58, animal is quite lively, drinks some water.

RABBIT II.—Injected on March 6th, at 11.20 A.M., two grains of sulphate of morphia; 11.50 A.M., the animal is completely lethargic, eyes glassy, breathing slower (38); 12.43 P.M., respiration, 22; 1.30 P.M., still less (19); 4.30 P.M., respiration, 14; does not struggle if held by the ears; 11.30 P.M., locomotion improved. The animal was found dead at 7.30 A.M., March 7th.

RABBIT III.—Injected two grains of sulphate of morphia on March 3d, at 8.20 A.M.; 9.55 A.M., completely lethargic; respiration, 20; 10 A.M., injected four grains $Mn_2O_8K_2$ (1 to 15); 10.20 A.M., respiration, 31; 10.27 A.M., injected four grains of the potassium salt; 10.43 A.M., the animal is much less lethargic, moves about voluntarily, struggles vigorously when held by the ears; 11.13 A.M., respiration, 50; 2.30 P.M., much slower (26); 3 P.M., injected four grains potassium permanganate; 3.05 P.M., respiration, 30; 5.20 P.M., faster (47); 10 P.M., the animal is asleep, but the slightest disturbance will awake it; held by the ears it struggles vigorously. Locomotion fair, showing perfect co-ordination; 10.20 P.M., the animal being disturbed ran fast a distance of sixteen feet.

March 4th, 8 A.M., the animal is quite lively and well.

RABBIT III.—Injected two grains of sulphate of morphia on March 6th, at 11.30 A.M.; 12.30 P.M., respiration, 200; 1.35 P.M., respiration, 48; 4.35 P.M., respiration, 40; lethargic; 11.30 P.M., the animal breathes fast (90).

March 7th, 8 A.M., the rabbit is drowsy, but breathes very rapidly (130); 10 A.M., still drowsy; 3 P.M., same condition.

March 8th, 8 A.M., respiration labored (84), becoming more and more difficult and slow; 8.10 A.M., the animal is in extremis, has convulsions, shrieks peculiarly five or six times, dies at 8.15 A.M.

Thus rabbits II. and III. succumbed to two grains of morphine when no permanganate was used to antidote the morphine.

RABBIT IV.—March 8th, 12.30 P.M. Injected three grains of sulphate of morphia; 12.35 P.M., four grains of potassium permanganate; 12.40 P.M., respiration, 80; 12.55 P.M., respiration, 40; 1 P.M., semi-lethargic; 1.05 P.M., four grains $Mn_2O_8K_2$; 1.16 P.M., respiration, 42; 1.40 P.M., respiration, 35; locomotion fair; 2.50 P.M., respiration, 24; able to move voluntarily; 3.05 P.M., four grains potassium permanganate; 3.20 P.M., respiration, 32; 3.40 P.M., respiration, 40; 11.20 P.M., respiration, 62; the animal is quite lively, locomotion perfect.

March 9th, 8 A.M., the animal is perfectly well; respiration, 74.

RABBIT IV.—Received an injection of three grains of sulphate of morphia on March 11th at 11.25 A.M.; 11.40 A.M., completely lethargic; respiration, 26; 1.15 P.M., respiration, 24; 4.45 P.M., respiration, 22; completely lethargic. At 7 P.M. the condition of the animal is greatly improved.

March 12th, 8 A.M.—Recovery complete.

A comparison of these last two experiments will show that the injections of the antidote were of decided benefit, inasmuch as they were always followed by an improvement in the breathing and the general condition of the rabbit. From an unbiased consideration of the foregoing eight experiments I was justified in concluding that hypodermic injections of potassium permanganate are of great value in opium-poisoning. The question arises, how does the antidote act when thus administered?

When we consider, on one hand, the wonderful affinity of $Mn_2O_8K_2$ for morphia,[1] and, on the other hand, the rapidity of the circulation, it appears quite intelligible that the antidote should select the poison in question from among the albuminous ingredients of the circulating blood, and thus render it harmless. Of course, part of the permanganate will be deoxidized before it can enter the circulation, but evidently enough of it is absorbed to accomplish its wholesome mission.

I shall now return, after this "intermezzo" of animal experiments, to the subject proper of this paper, and shall relate a case of opium-poisoning which occurred in my own practice.

CASE III.—On April 6, 1894, at 8 A.M., I was sent for by Dr. Henry Altschul, of this city, to assist him in a case of morphine-poisoning. On my way to the place I procured one ounce of a 1 to 15 solution of potassium permanganate (gr. xxxij. to ℥j. aq.). On arriving I found the patient, a young man of twenty-four years of age, in a condition of absolute insensibility, resembling a corpse. His face was livid; his pupils contracted to the size of a pin's point; his respiration—four times per minute—spasmodic and stertorous; his pulse slow, rather full. It was utterly impossible to arouse him or to make him react to any external impression. Dr. Altschul had been with the patient since 7 A.M., resorting to artificial respiration, injections of apomorphine, which produced no emesis, and giving strychnine and atropine hypodermically. As the patient naturally was unable to swallow, I sent to the nearest pharmacy for a medium-sized hard rubber catheter, also a piece of rubber tubing about one-half of a foot long, into which the catheter should fit, and for a glass funnel to fit into the piece of rubber tubing. Meanwhile, in order not to lose time, and having in my mind the results of the animal experiments cited above, I gave the patient a hypodermic injection of 50 minims of the antidotal solution (3⅓ grains of potassium permanganate). This was at 8.30 A.M., half an hour after I was called. At 9 A.M. I administered 15 grammes of the original permanganate solution (16 grains of the antidote), diluted with a cupful of water. This I did by introducing through the patient's nose into his œsophagus the hard rubber catheter, which I had connected with the glass funnel by means of a piece of soft-rubber tubing, and by slowly pouring into the glass funnel the diluted antidotal solution as mentioned above. At 9.30 A.M., the patient's respiration had risen to eight per minute; but it was still impossible to arouse him. I therefore

[1] See MEDICAL RECORD, February 17, 1894.

gave him another injection of 50 minims of the permanganate solution. A few moments later he gave the first evidence of returning locomotion power by violently tossing with his legs. Soon after this he began to show signs of returning consciousness. At 10.15 A.M. the patient could be made to walk with the assistance of two men. A few minutes later he cried bitterly, embraced and kissed his father, and answered rationally questions that were put to him by those present. Then he asked for black coffee and accepted a cigar, which he smoked vigorously and seemed to enjoy. By questioning him we found out that he had taken, at 6 A.M., one drachm of powdered opium, and for this purpose had filled thirteen gelatine capsules (No. II.) with the opium. We found the empty drachm box at the place indicated by the young man.

About 11 A.M. I gave him seven or eight grains more of the antidote per os, and left him in my colleague's care. The next morning, April 7th, he was practically well and wanted to leave the house in order to make a business call.

Such a quick recovery after such a quantity of poison ingested—sixty grains of opium—and after a fatal issue had seemed almost inevitable is so remarkable that it fully justifies my claim set forth, *that permanganate of potassium is the antidote par excellence for opium.*

CASE IV., occurring in Pittsburg, Pa., reported through the kindness of Dr. Robert P. Finley, of Altoona, Pa.—Patient had taken three ounces of laudanum and was brought to the hospital in a moribund condition, three hours after having taken the poison. No reflex response, respiration four to the minute. As a last resort, after every other means had failed, eighteen and three-quarter grains of potass. permang. were given hypodermically, in the space of two hours and fifty-five minutes. In four hours from the first injection he was perfectly conscious, complaining only of sleepiness.

Up to this date I am cognizant of seventy-one cases of opium-poisoning, in which the therapeutic agent recommended by me as an antidote has been used with unmistakable success, although it is fair to assume that many other cases were not reported.

In the *Canadian Practitioner*, September, 1894, there appeared an able article from the pen of Professor Graham Chambers, of Toronto, in which he comes to the same conclusions I put forward in my original article on the subject. There is only one point on which my opinion differs from that of Professor Chambers. He says $Mn_2O_8K_2$, subcutaneously, is poisonous. Now I have shown in my present paper that rabbits stood hypodermic injections amounting to twelve grains without any deleterious effect, and in the case reported by Dr. R. Finley (Case IV.), the patient had received nearly nineteen grains hypodermically. The mere fact that dogs are susceptible to the action of manganese does not prove that $Mn_2O_8K_2$, given hypodermically in moderate doses to man, would have any toxic effect. Facts point to the contrary. I might state here that Dr. DeBaun's suggestion (see Case II.), to dilute the antidote for hypodermic use as much as possible, is an excellent one; one grain to one drachm of water seems to me a good proportion. Of course, for its use per os, it should be diluted in a much greater proportion, so as to bring in contact with it as much of the walls of the stomach as possible.[1] It might, perhaps, not be unimportant to emphasize once more, in order to avoid mistakes, that permanganate of potassium is not an antidote for all kinds of toxic substances. I have clearly demonstrated that it has absolutely no effect upon atropine,[2] cocain, veratrine, pilocarpine, aconitine, that it could not be depended upon in strychnine-poisoning, in poisoning by oxalic acid and colchicum preparations. I have also shown that even after sixteen hours of contact, phosphorus was not oxidized by potassium permanganate.[1] In connection with this it is highly interesting to know that "peroxide of hydrogen, with all its energetic oxidizing action, has no effect on phosphorus, a substance which is so readily oxidized by the air."[2]

In addition to the foregoing, I found that $Mn_2K_2O_8$ has practically no effect upon muscarine and caffeine, especially in the presence of albuminous matter, and just as little oxidizing power over hydrocyanic acid, although, strange to say, it at once decomposes cyanide of potassium.

In closing this paper, I call the attention of the profession to the fact that opium, its preparations and alkaloids, are our most important and most frequently used remedies. There is scarcely a home, scarcely a family, that does not frequently have within its threshold the great benefactor of suffering humanity—opium—and it is just for this reason that accidents in connection with its general and frequent use are of daily occurrence. I hope, therefore, that the importance of possessing in permanganate of potassium a safe and efficient antidote for opium, its preparations and alkaloids—especially morphine—will not be underestimated.

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[1] It is now a well-established fact that the mucous membrane of the stomach secretes morphine which had been absorbed into the circulation, and that this secretion continues for many hours.

[2] Including hyoscyamine and hyoscine.

HYDATIDIFORM MOLE.

BY JOHN P. FURNISS, M.D.,

SELMA, ALA.

IN the report of a case of cystic degeneration of the chorion, in MEDICAL RECORD, December 8, 1894, Dr. L. W. Zwisohn states the main points of interest as: 1. Is vomiting one of the main symptoms of hydatid cyst? 2. Do we have positive signs to help in the diagnosis of hydatidiform mole? and what are they? 3. Do they reappear in the same individual, and if so, how frequently? For how long a time is the mole retained in the uterus? 4. Is curetting advisable in cases of hydatid mole? 5. Is it possible that hydatidiform mole should appear independently of conception?

This article, together with a very recent case, recalls my experience with such affections. During the past twenty-seven years that I have practised here (population 7,622), six cases of hydatidiform mole have occurred, three of which were under my immediate charge, and one of which I saw under the care of another physician.

I do not include in this list two cases who gave the history of pregnancy, and had apparently typical abortions which resulted in the expulsion of nothing except a single cyst, like a fish-bladder. In one case the cyst was the size of a walnut, and in the other of a hen's egg.

CASE I.—Mrs. C——, aged twenty-eight, three children, lived on a plantation, but came to town for treatment. She gave the history of four months' pregnancy, nausea, vomiting, etc. Insisted that she felt fœtal movements. Os soft, and cervix shorter than was expected. She had had repeated hemorrhages, which occurred irregularly, generally at night, but never when she was sitting or standing. No cysts discharged. Failing to stop a free hemorrhage with tampon, I introduced and inflated a Barnes bag. The expulsion of a typical hydatidiform mole followed immediately. The mass filled a half-gallon jar, which was kept in my office several years. Convalescence uninterrupted. No recurrence. One child and two abortions since.

Dr. C. J. Clark attended the case with me, and said that it was the first he had seen in a large practice of over forty years.

CASE II.—Mrs. K——, aged thirty-two, five children, consulted me on account of not having felt movements when she had had all the other symptoms of four and

[1] MEDICAL RECORD, February 17th and April 7th.

[2] Dr. L. D. Kastenbine in Louisville Medical Monthly, July, 1894.

a half months' pregnancy. As she was then in good health, she was advised to wait two weeks. She had had no bloody discharges. No cysts passed. Hemorrhage came on suddenly, and on account of my engagements she was attended by the late Dr. C. J. Clark, who told me that the mass which was expelled was similar to Case I. Convalescence prompt and uninterrupted. No recurrence. No children since.

Case III.—Mrs. D——, aged thirty-two, twice married; two children by each marriage. History of four months' pregnancy, nausea, vomiting, etc., though she was not convinced that she was pregnant. Discharges of colored fluid. Suspected death of fœtus, though uterus continued to enlarge. No cysts passed. Labor pains came on without provocation, followed by profuse hemorrhage and alarming collapse. Uterus emptied manually. Mole same as Case I. Convalescence slow on account of debility. No recurrence. Twins and two other children since.

Case IV.—Mrs. H——, aged twenty-four, primipara, naturally delicate, came from her home in Texas to be nursed by her husband's relatives. She was apprehensive that there was something unusual in her condition, and her husband shared her feeling, especially since the physician who had attended her expressed the opinion that she had extra-uterine pregnancy. History of four months' pregnancy, aggravated nausea and vomiting, fundus above umbilicus, os soft, and cervix obliterated, uterus globular. Taken with elevated temperature, pain in neck and back, excruciating headache, both eyes affected, vision in right limited to counting fingers at two feet distance, urine so albuminous that test-tube could be inverted after boiling without spilling.

Medication failing to produce relief, it was decided, after consultation with Dr. T. G. Howard, to induce abortion. Gum bougie introduced. Two hours afterward regular uterine contractions began and kept up. At the same time a slight flow of blood began and continued until it became necessary to check hemorrhage. At this juncture the diagnosis of probable hydatidiform mole was made. The tampon failing, patient was anæsthetized, the uterus emptied digitally, and then curetted and packed with iodoform gauze. The mass more than filled the top of a slop-jar and resembled boiled sago, the cysts being small and uniform. It was so firmly and universally adherent that it was removed with difficulty and by piece-meal. No further hemorrhage, good reaction, and urine became nearly free of albumin; but patient died four days afterward from meningitis.

Case V.—Mrs. B—— (under charge of Dr. J. T. West, now dead), aged twenty-two, primapara, history of three months' pregnancy, nausea, vomiting, etc. Treated for abortion. Mass expelled entire. Uterus swabbed with tincture of iodine. No recurrence, and no children, though she has been a widow several years.

Case VI.—Mrs. K——, under charge of Dr. Goldsby King, aged twenty-three, primipara, history of three and a half or four months' pregnancy, intractable vomiting, bloody discharges, no cysts, frequent attacks of pain with symptoms of impending abortion. Was treated for threatened abortion, and no diagnosis of mole was made until after the expulsion of a mass the size of an infant's head. Hemorrhage profuse and collapse protracted. Diarrhœa, fever, and debility interrupted convalescence. After recovery she moved to another place, and her subsequent history was not obtained.

An analysis of these six cases of hydatidiform mole enables me to reply to Dr. Zwisohn's interrogatories as follows:

1. That vomiting is one main symptom of hydatid mole, as well as of the two cases of single cyst reported.

2. That in only one of the cases, was a diagnosis made anterior to the expulsion of the mass, and that diagnosis was only probable. Increase of the uterus to a size greater than that which would naturally correspond to the estimated period of pregnancy, discharge of blood or bloody serum, the escape of vesicles, and the absence of ballottement and fœtal heart-beats and movements, are put down, by such authorities as I have access to, as the characteristic symptoms.

I would like to add three others: Softness of the os, shortening of cervix, and more globular shape of fundus. The sensation of the patient, that there is something unusual or unnatural in her condition, is suspicious and has been a constant subjective symptom in my cases.

3. That there has been no recurrence in the cases reported. That in all of them the mass has been expelled before the fifth month.

4. That curetting is not necessary when the mole comes away entire, and that it is only advisable when it is adherent and has to be removed piecemeal, as in Case IV.

5. That in the light of our knowledge of its etiology it is not possible that hydatidiform mole should appear independently of conception.

The existence of a chorion implies impregnation, and if a hydatid mole is the result of cystic degeneration of the chorion, then conception must have preceded its development. I have never seen an embryo in any of my specimens. Three of the six cases were primipara, and were under twenty-five years of age.

Progress of Medical Science.

Experimental Typhoid Fever. — Dr. Sanarelli publishes a third memoir on this subject, in which he argues strongly that his researches tend to prove that human typhoid fever is not a primarily intestinal affection. (*The British Medical Journal.*) He insists first on the tolerance of the intestinal mucous membrane which may exceptionally be exhibited, especially in the case of relapses, where only the patches which escaped in the first attack suffer. This intestinal tolerance may be obtained experimentally without in any way altering the vulnerability of the organism generally to the virus. A quantity of sterilized culture of Eberth's bacillus, sufficient to vaccinate the animals, was injected by degrees into the stomachs of guinea-pigs, the necessary quantity being determined by simultaneous subcutaneous injection in other animals till these were fully vaccinated. The animals so treated were then inoculated with virus together with others to serve as controls. They died in the same time as these, but exhibited no abdominal symptoms, the meteorism, tenderness, and pain present in the latter being absent. Post mortem, while in the control animals abundant peritoneal exudation was found with typical intestinal lesions, in the others there was no fluid, and the intestines were perfectly normal with their mucous membrane intact. But, at the same time, the other mucous membranes were found congested, which goes to show, according to the author, that the immunity of the intestine results from the habituation of the cells which have eliminated the first poison. A similar immunity was obtained by the injection of putrid beef broth. As in vaccination by subcutaneous injection, the microbes, together with B. coli, tend to disappear from the intestines thus immunized; but on inoculation B. coli again becomes numerous and virulent, as in ordinary cases, although the intestinal walls have perfect immunity. Investigating the nature of immunity against typhoid, the author criticises and rejects the experiments tending to prove that the serum of immune individuals possesses bactericidal or antitoxic properties. First, as to bactericidi-

dal power: Animals vaccinated in the ordinary way were inoculated with virus. The first was killed after two days, and cultures made from the peritoneum were fatal to guinea-pigs in twelve to sixteen hours; cultures from the second, killed after three days, were fatal in ten to twelve hours; cultures from the third, killed after four days, were fatal in eight hours, the usual intestinal lesions following with marked intensity. Therefore, in animals vaccinated against typhoid fever, so far from their serum being bactericidal, Eberth's bacillus flourishes and progressively augments in virulence. Secondly, as to antitoxic properties: Vaccinated animals were found to be even more vulnerable to the toxin than unvaccinated, the hypothermia being more marked and regularly progressive. Further, guinea-pigs and mice were inoculated with toxin mixed with serum of vaccinated animals. With the exception of two mice (notoriously uncertain in reaction), they all died in the ordinary way. On the other hand, the activity of the phagocytes of vaccinated animals is found to be enormously increased. As stated, no peritoneal effusion is found, but the intestines are covered with a thin, sticky layer, which the microscope shows to consist exclusively of leucocytes and endocellular microbes. The author concludes that B. coli and Eberth's bacillus must be considered as distinct varieties. Finally, the author claims that the biological process of human typhoid is to be explained by the knowledge gained by experiment. The earliest symptoms are malaise, fatigue, pains in the head and limbs; the intestinal symptoms only appear when absorption begins. The hyperthermia is a measure of the reaction of the organism to the poison, and if the bacillus of Eberth could fabricate its poison with the same intensity as the cholera vibrio in the human organism, the disease would be rapid and apyretic as in the animals experimented upon.

Anodynes and Hypnotics.—When we consider the number of anodynes and hypnotics that have been introduced within the last few years, and the freedom with which they are now prescribed and administered, it is impossible, according to *The Lancet*, not to be struck with the wealth of means at our disposal for combating the ravages which pain and sleeplessness work on both mind and body. Antipyrin, acetanilide, sulphonal, trional, chloralamide, and others which might be named, will be sufficient to indicate the extent to which our armamentarium has been strengthened. And yet when we think of the powerful effect which those drugs exercise, of the almost immediate relief to most distressing conditions which they so often furnish, it is impossible not to believe that there is "another side to the shield," and that those medicinal agents, blessings in their proper place, not uncommonly become curses and engender a condition of things which is infinitely worse than that to overcome which they were originally administered. When it is a matter of common knowledge that even such a nauseous drug as paraldehyde may actually become the seductive allurement to a harmful habit, it is scarcely to be wondered at if indulgence in other drugs, similar at least in the effects they produce, is occasionally carried to harmful excess. We cannot too strongly deprecate the free and irresponsible manner in which antipyrin, for example, is administered or is taken without medical advice asked or received. One thing in reference to this particular drug is quite certain—and its habitual "eaters" will be the first to acknowledge the fact—and that is that frequent indulgence, as with most drugs, leads to habituation, and that increasingly larger and therefore more harmful doses have to be taken in order to produce the desired effect; and, while the desired effect may be obtained with the larger and more frequent dose, the side effects, so to speak, are also produced more and more strongly, and the patient is in danger of suffering complete physical shipwreck, or at least of producing in himself such a condition of bodily weakness as must render him more liable to succumb to what would be, under other and more favorable circumstances, but a slight illness or a temporary disorder. We do not wish to undervalue this or any other drug of a similar class. Useful and helpful undoubtedly they are, but it should never be forgotten that they are only administered in order, as it were, to mask the painful effects which accompany some departure from physiological health, and that they do not of themselves restore normal function. The sufferer from migraine must not imagine that he is curing his migraine by taking such drugs; he is only saving himself from some of its effects, and unless radical measures are taken to prevent the recurrence of the disorder, he will find that his dose of anodyne has to be repeated more and more frequently, and with increasingly disastrous results to his general health. What has been said about anodynes applies even more strongly to hypnotics. Sleeplessness is no doubt one of the most distressing accompaniments of energy and intellectuality, and however efficacious or apparently harmless certain drugs may be in procuring sleep, such rest is only obtained at some sacrifice and with a certain amount of actual risk. Many of the drugs which are used as hypnotics have been introduced so recently that their full dangers are neither known nor appreciated. Our readers, taking a mental retrospect, will remember how the harmlessness and efficacy of chloral were vaunted, but we now know what danger lurks in its crystals, and what havoc it has wrought and is still working in many lives. Doubtless, artificial sleep has to be obtained sometimes, but it should always be remembered that, in treating sleeplessness with hypnotics, we are only treating a symptom, and that this distressing symptom, unless its cause be rationally combated by other means, will subsequently require stronger, and therefore more harmful, doses of its sedative. The medical profession has great responsibilities in regard to such drugs as we have mentioned, and too great care cannot be exercised in preventing patients from themselves having control of such powerful remedies. They are sadly prone to experiment, not on themselves only, but on their trusting friends, for whom drugs often have the fascination that squibs and crackers have for school-boys; and in more than one instance within our knowledge the chance administration of a drug by one friend to another has had effects so appalling as to be almost incredible.

Toxins and Microbes.—Morny and Marcano conclude, from a series of experiments on the toxin of staphylococcus aureus, that the introduction of a toxin into the body may produce fatal results by causing the escape from the intestine of the microbes present there in a normal state and usually innocuous. Inoculation of antitoxin serum prevented the primary infection, but was powerless to control the secondary. Human pathology offers many instances where a previous infection by a microbe not necessarily dangerous to the host, prepares the way for a secondary infection which otherwise would not have gained a foothold.—*La Médecine Moderne*, December 1, 1894.

Steresol.—This new antiseptic varnish is said to have an advantage over traumaticin, etc., that it adheres to mucous membranes as well as to the skin. It has a bactericidal power equal to pure phenol, but is not caustic. It has been used at the Hôpital Trousseau with eighty-one per cent. of cures in diphtheria. Its value has been demonstrated over a wide range of skin affections, mucous patches, dental caries, lupus ulcers, herpes, pruritus, etc. For surgical use it is painted over the operation wound, site of injury, etc., often with the previous application of iodoform, bismuth subnitrate, salol, etc., in powder; several coats are applied and allowed to dry, and then a light gauze bandage.—*Le Bulletin Médical* December 5, 1894.

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THE DISPENSARY AND HOSPITAL ABUSE.

THERE is no denying the fact that the dispensary abuse has come to be such an outrageous evil, that its continued discussion is constantly crowded upon our attention. In the present issue a correspondent details some results of personal observation which he and every other physician knows is by no means unusual.

It is notoriously true that there is more covert and so-called genteel swindling of professional services in the various dispensaries about town, than in all the other fashionably prevalent endeavors to cheat charity. Nowadays it would seem that a patient who can pay a dollar fee to a young and struggling practitioner, never thinks of going to him, but always hies to the nearest dispensary, where he or she is smilingly welcomed by another professional brother who is always on the look-out for an interesting case. But not only this: It is well known that well-to-do people are constant visitors to the ruinously numerous charity organizations. It is no longer a joke to refer to the sealskins and diamonds on the waiting benches in one of the largest clinics in town. Complaints are of no avail, either to the trustees or the attending staff. Placards are posted to the effect that unworthy persons shall receive no free treatment or advice, but they have no more real effect than if written in an unknown language. Various attempts have been made by different institutions to examine into the circumstances of patients applying for aid, but they have been rendered, in the end, utterly futile, in view of the necessity of a good showing in the annual reports of actual numbers treated, and the consequent claims for increased subscriptions to sweet charity.

One of the main excuses for proper discrimination is the rush of business, that would make the necessary inquiries impossible and impracticable. In most instances it is the organized force in propagating wrong against the ineffectual protest of the individual injured. Even capital appears to be arrayed against legitimate professional labor. Thus we hear of magnificent buildings erected for medical charities, when even the existence of the latter would be absolutely impossible save for the too willingly free services of the profession. The profession has no voice in their management, and no privileges other than to serve the purposes of the managers. This is a trifle humiliating for a learned and honorable profession, but it is, nevertheless, true. There are hundreds of young medical men, even in this city, who are cheated of a legitimate livelihood by the most abominable abuses of these unnecessarily numerous dispensaries and clinics in every available district. The cry that the really poor would suffer for want of free medical attendance, if these so-called charities were decreased in numbers or crippled in opportunities, is absurd. Less than half the number of hospital dispensaries that now exist could well be dispensed with and no really deserving poor patient be neglected.

That the profession itself is to blame for most of these abuses has been so often and so truthfully said, that we are almost ashamed to mention the fact even in a connection that is so legitimately warranted. The only hope is that, in the evolutionary growth of an outraged sentiment, the profession may be forced eventually into some organized and consistent opposition to the powers that be. That this is not very near at hand is quite evident, when we study the complex relations between the aspirations of individuals on the one hand, and the real good of the profession, as a whole, on the other. In a word, the profession is not yet a unit in its own interests. Too often, when the profession is insulted, through one or more of its members, by hospital managers, there is a condoning crowd of eager brethren in line for vacant places. If it were possible for the profession to stand by itself, to demand in a body its rights of hospital managers and dispensary trustees; to frown down the selfish interests of individuals, and show its real power by organized effort, a proper initiation would be taken to remedy almost every possible abuse of these charities.

The strong and abiding under-current of adverse feeling by the younger members of the profession, so often comes to the surface of discussion, that there is little doubt that some definite and concerted action will yet be determined upon. Already there is a threat to band together and treat the dispensary patients in private offices and private rooms in given districts, and thus retaliate, not only by diverting material from grasping instructors, but by controlling in a certain distributive sense the patronage of a class from which something of an income, small as it may be, may be obtained. The suggestion of our correspondent, that the Charity Organization Society supervise the legitimate claims of the dispensary applicants, is a good one, but it is not at present in the interests of the dispensaries or the medical staffs of the same, in their competition for material, to work in unison with such an idea.

THE HEALTH AND PLUCK OF THE SEVENTH REGIMENT.

THE influence of a high order of intelligence, combined with careful discipline, was very clearly shown by the recent Brooklyn campaign of the Seventh Regiment. Dr. Daniel M. Stimson, the surgeon of the regiment, with no small share of commendable pride, calls attention in his recent report to the remarkable record of ability made by the command to meet an emergency unparalleled in the history of the National Guard. Although composed of men who by social position were unused to any hardships, each and every

one met the manifold privations with a willingness and bravery that amply demonstrated the mettle and staying powers of high culture and good blood.

The regiment went through the arduous eight-day campaign with practically a clean bill of health. But two were injured, and only a few were temporarily relieved from duty on account of severe colds contracted while on guard duty. The food furnished was excellent and abundant, and the cooking, although done by men whose own chefs were at home, was most creditable

All these favorable conditions regarding the men themselves were, however, offset by those of their quarters and surroundings, which were on a par with those to be found in an enemy's country.

The men found very inadequate sanitary arrangements at the car-stables, where they were quartered. The intervention of the Second Brigade was necessary to secure extra accommodations. At the East New York station there was an inadequate water-supply. Extra fire-hydrants there were procured through the exertions of the Citizens' Committee. The badly drained pavements in the car-sheds aggravated the unsanitary conditions. In the opinion of Dr. Stimson, the policing done at the stables by the railroad companies was unpardonably bad. They did nothing for the health and comfort of the troops until forced to action, either by the officers of the regiment or by the city officials. Their indifference to the commonest needs of the troops was conspicuous throughout the campaign.

It required the most watchful care, and the most faithful services of the medical staff, to keep even the fine material of which the regiment is composed to the requisite health standard for efficient service. Too much praise cannot be given to Drs. Stimson, Valentine, and Colles, of the regular staff, and to Privates Wood, Disbrow, and Beebe, also practising physicians, who were wisely detailed on the hospital corps, for their constant attention and unremitting kindness to the men who had need of their services. In fact, the whole history of this short and efficient campaign proves, in the case of officers and men, what perfect discipline, true pluck, and high intelligence can do in making the citizen-soldiers of this famous regiment models of their kind the world over.

DANGERS IN PROFESSIONAL FEES.

Now it appears that another danger is added to the many that the physician is called upon to encounter in his daily contact with patients. This is the more deplorable in view of the fact that, of all the risks that the medical man takes by contact with infection, the one in question has been, up to this time, most valiantly faced and most innocently encountered.

M. Demosthene, a Roumania physician, brings to the notice of his brethren a source of contagion in the fee itself. This acute and painstaking observer maintains that patients who hand their physician a fee usually take the coin or note from the bedside table or from beneath the pillow, places where it may have been exposed to infection when the complaint is a contagious one. Even when the fee has not been exposed to this impure contact, it can still be charged with germs by another person handing it to the physician, since that person may be brought into contact with the patient, owing to the care the case requires. In a word, in either case the physician himself may unconsciously become an agent of contamination to other patients, and so on down the long line of continuous contact.

There is a grim supposition aroused in the mind of the reader that the author of this apparently plausible theory has some direct personal experience in money-getting upon which to found his broad and rather sweeping assertion. We trust that he has had no difficulty in obtaining trustworthy statistics as to the number and degree of exposures necessary for infection. At best the theory is not apt to be a popular one unless the dangers are practically demonstrated. In fact, there is a strong concensus of resolution to gladly face any such in the hope of being able to intelligently discuss the situation by the accumulation of desirable personal data. At best the collection of experience must, under the present financial depression, be very slow, notwithstanding it must be admitted that the great majority of practitioners are more interested in the real risks than they are concerned about their results. All this will doubtless tend to vitiate trustworthy statistics.

In following out his argument M. Demosthene concludes, in an entire innocence of humorous intent, that physicians must be on their guard against the fees of patients ill with contagious complaints, and must consider them as contaminated objects ; and that for such reason they should always be provided either with a metallic purse, or with a pouch of some impermeable stuff that can be disinfected either by boiling or by passing through fire or antiseptic solutions. After receiving such a fee they should at once disinfect their hands before leaving the patient's room. On reaching home they should again purify their hands, sterilize the purse and coins by fire, and disinfect bank-notes with a solution of carbolic acid, five or, even ten per cent., for at least an hour.

Although these precautions may be well enough, it can be easily proved that the chances of receiving cash on the spot are so small, in this country at least, that the real danger of such methods of infection is reduced to a minimum. When such unexpected exposures do occur they are apt to be so disconcerting and demoralizing, that the victim hurriedly and carelessly thrusts the roll in his vest pocket and possibly infects the latter until the long-deferred time for the next suit. The only comfort in this whole business is, that luckily for the new and taking theory, there are very few opportunities for becoming careless and of thus possibly proving its truth. It is well, however, to bear all these things in mind, and be prepared when any sign of widespread danger shows itself.

Another Home for Consumptives.—General J. Watts De Peyster, of Red Hook, has had plans drawn for a Consumptives' Home at Verbank, N. Y., which will cost $30,000, and accommodate three hundred patients. It will be the second institution of its character in New York State. The construction of the building will be begun as soon as the necessary details can be carried out.

THE MEDICAL PROFESSION AND THE BOARD OF HEALTH.

THE *Evening Post* has drawn out several warm protests from prominent physicians for its course in attacking the bill now before the Legislature, which proposes to repeal the law forbidding a physician to be President of the Board of Health. One correspondent, Dr. Roosa, puts the matter this way: "(1) Physicians consider the restriction as an undeserved indignity to the medical profession, in the assumption that they have not on the average as much executive ability as lawyers, editors, clergymen, or even business men. (2) The whole history of the profession is against such an assumption. For proof of this, regard the management of the hospitals of our army and navy during the civil war. It is a very narrow view of doctors of medicine which considers them as mere dispensers of drugs or experts with the scalpel.

"It is not that the medical profession desires a law which compels the appointment of a doctor as President of the Health Board, but that we should not be excluded from the office by such class legislation as that of the present statute."

Another correspondent says: "I cannot refrain from taking exception to your editorial of yesterday's issue regarding the present law which prohibits expressly the appointment of a physician to the presidency of the Board of Health. I cannot believe that your customary care was exercised in forming an opinion on this subject. Grant that the great majority of the medical fraternity are not possessed of 'the kind of business and executive ability which this presiding officer should have,' why endorse a law that has gone out of its way to put an affront upon the entire profession? If no suitable physician could be found to fill the office, the Mayor would possess the power to appoint a non-medical man as fully without the present law as with it. It is, therefore, an utterly uncalled-for slur upon as honorable and desirable a class of citizens as the State of New York contains. Of course we 'are in danger of having some man in this responsible place who has not been successful as a practitioner, and who is on the lookout for a sinecure.'

"Most political office applicants are failures, but we do not hope by special enactment to keep them from filling the offices. Such special legislation is vicious in principle, and sooner or later acts as a political boomerang. As you have so strenuously maintained these many years, we must rely upon a high and sustained public sentiment. You have recently been advocating a bill that requires the police justiceships to be filled by lawyers. It seems an unquestionably wise measure. The chief function of a board of health is to perfect in theory and practice the prevention of disease. No doubt the chief ability required for the daily labor of such a board is the executive; on the other hand, if you will investigate the history of sanitation and the evolution of health boards, you will find that the major advance has been accomplished by medical men who were a part of the executive of such boards."

The main point, after all, is that physicians should not be legislated against in this matter. We do not ask for the place, but it is an outrage to say that no medical man is qualified for it.

THE HOUSE NAVAL COMMITTEE AND THE MEDICAL PROFESSION.

"THERE is nothing in the action taken or refused by the committee which 'degrades' or 'disorganizes' the Medical Corps of the Navy. The statement of the petition is unsupported by argument, probably because no argument could be found to support it. It appears simply to be thrown haphazard into this debate, backed by names of some distinction, for any chance influence that it may have. The Naval Committee does not believe that Dr. Shrady and his fellow-signers have given this subject any considerable degree of personal attention, or that they have any special fitness for judging of the status of a surgeon from a military point of view; and it recommends that their petition be laid upon the table."

The above is at the tail end of a report purporting to be a justification of the Naval Committee for not considering "Petitions relating to the Medical Corps of the Navy," but in reality is a measure adopted by Representative Meyer, of Louisiana, to "wipe up the deck" with the Surgeon-General of the Navy. This process may be satisfactory to Mr. Meyer, but whether it will prove effectual remains to be seen. Surgeon-General Tryon is well known to the profession in this community, and although he was appointed, as Mr. Meyer regrets, by selection over a number of officers senior to him in rank, and "all of them his equals and some his superiors in ability and service," still he seems to have obtained the confidence of his corps, and his efforts to place it on the basis of the Medical Corps of the Army is approved by them and the profession at large.

The Naval Committee are at fault in supposing Dr. Shrady and members of the medical profession have not "given this subject any considerable degree of personal attention, or that they have any special fitness for judging of the status of a surgeon from a military point of view." On the contrary the editor of this journal is thoroughly conversant with the entire subject and has been advocating in these columns a better status for the Medical Corps of the Navy for the last twenty-five years, long before Mr. Meyer of Louisiana was reconstructed and made available to become an expert on "Navy reorganization." We intend to continue our efforts in this direction until the Medical Corps of the Navy is placed upon the same footing as that of the Army.

Artificial Fecundation.—In discussions of artificial fecundation the fact is not mentioned that John Hunter was the first to perform this. He was consulted by a person who expressed great anxiety to have children, but whose urethra opened into the perineum. Hunter recommended him to inject by syringe, previously warmed, the semen into the vagina, post coitum, during the orgasm. In this connection, it is of interest to remember that Averroes reported a case of a woman "that conceived in a bath, by attracting the sperm of a man admitted to bathe near her." The most striking feature about this last case is its having been admitted by Mohammedan jurisprudents as a precedent.—*Medical Standard.*

News of the Week.

A New Private Hospital for Contagious Diseases.—Mrs. John W. Minturn has offered the Health Board $25,000 toward the establishment of a private hospital for the treatment of contagious diseases. The offer was made through Dr. John W. Brannan, of this city. The conditions imposed by Mrs. Minturn are that the hospital shall be a private one; that the money shall be used solely for the purpose for which it is given; no part of it to be applied to the improvement of any existing institution, and that the management shall be in the hands of the Board of Health and of a board of trustees appointed by the subscribers to the fund toward the erection of the hospital.

The Medical Staff of the Seventh Regiment.—The following well-deserved compliment to the efficiency of the medical and other officers of the Seventh Regiment in the late Brooklyn riot has been paid by Colonel Appleton, in recent published orders: "The commanding officer commends the patience and discipline of the command while discharging its disagreeable and arduous duty. He also notes with satisfaction the zeal and intelligence displayed by the officers and men of the Medical (under Surgeons Stimson, Valentine, and Colles), Quartermaster (under Quartermaster Schuyler), and Subsistence (under Commissary Sergeant Myers) Departments. The ability of this regiment to take care of itself was demonstrated by the facility with which the rations were prepared by men detailed from the several companies to act as cooks, and by the attention paid to sanitary and hygienic rules. This observance undoubtedly conduced to the unprecedented exemption of the regiment from the ailments that almost invariably result from unusual and long exposure and radical change in the manner of living."

Death of Medical Inspector Frank L. Dubois, United States Navy.—Medical Inspector Frank L. Dubois, United States Navy, died of apoplexy February 24th, at Portsmouth, N. H. Surgeon Dubois was on one of the ships engulfed by a tidal wave in the harbor of Callao twenty-five or thirty years ago. He had been nearly thirty-three years in the service.

The Death of Dr. Milton N. Taylor occurred in Baltimore, February 25th, of heart failure. In 1853 and 1854 Dr. Taylor held the office of City Physician, and was Health Commissioner under Mayor Banks from 1867 to 1871.

The "Medical Fortnightly."—Dr. Bransford Lewis, the accomplished editor of the *Medical Fortnightly*, has retired from the management of that periodical to devote himself to a special line of practice. He is succeeded by Dr. James Moores Ball, who already shows a winning hand.

The Obstetrical Society of Cincinnati, at its annual meeting, elected the following officers for the ensuing year: *President*, Dr. A. W. Johnstone; *Vice-President*, Dr. Sigmar Stark; *Secretary*, Dr. E. S. McKee; *Corresponding Secretary*, Dr. W. D. Porter; *Treasurer*, Dr. George E. Jones.

Dr. Herman Mynter writes: "In my article in the MEDICAL RECORD of February 9, 1895, I find a mistake in printing, which needs correction. On 17th line from bottom, on page 167, 'one grain' should read 'one gramme.'"

To Military and Naval Medical Officers.—The undersigned, members of the "Committee on Litter," appointed by the Association of Military Surgeons of the United States to report at the approaching annual session a desirable form of military litter for the comfortable, safe, and expeditious transportation of the sick and wounded, solicit from medical officers of the National Services and the National Guard of the several States, suggestions, plans, or models of such an appliance, to be delivered to either of them at their respective addresses, on or before April 1, 1895: Albert L. Gihon, Medical Director, United States Navy, United States Naval Hospital, Washington, D. C.; John Van R. Hoff, Major and Surgeon, United States Army, Governor's Island, Harbor of New York; Myles Standish, Captain and Assistant Surgeon, M.V.M., 200 Dartmouth Street, Boston, Mass.

"The Health, Sanitation, and Climatology of the Southern States" is the title of a new quarterly journal devoted to the advancement of sanitary science, material resources, and medical climatology; the mineral springs, health resorts, and sanitariums of the Southern States. Edited by Walter C. Murphy, M.D., and published at Washington, D.C.

The State Hospital at Morris Plains, N. J.—The New Jersey Legislature has granted the State Hospital at Morris Plains an appropriation of $325,000 for the construction of an additional building to relieve the overcrowded condition of the present structure. The normal capacity of the present building is eight hundred, but that limit was exceeded some years ago, so that now the census of inmates runs up to very nearly eleven hundred. Dr. Evans, the Medical Director, has frequently called attention to the urgent necessity for relief, and the managers, at the beginning of the present year, set resolutely about to obtain it. The new building will be of stone, and will have a capacity for six hundred patients; and in addition to being fitted out with all the modern appliances and improvements known in hospital construction, it will contain a large associate dining-room, an infirmary for males and females each, an isolation ward, rain-bath, large amusement-room, and one of its best features will be a specially constructed and equipped pathological laboratory. The people of New Jersey have always shown creditable zeal and liberality in providing for their dependent insane.

Dr. Tynberg.—The name Feinburg on page 248 was a misprint for Tynberg.

Germs Cannot be Sent by Mail.—Bacteriologists and pathologists should take notice that by the new postal regulations, "disease germs and matters from diseased persons" are unmailable matter, and cannot in the United States be sent by post.

A Society for Experienced Practitioners Only.—The Quarter Century Medical Club, for social, biographical, and historical purposes, was organized in Detroit,

Mich., January 15th. The qualifications for membership are twenty-five years practice in Detroit and good standing in the profession. The following officers were elected: *President*, Peter Klein, M.D.; *Vice-President*, E. W. Jenks; *Treasurer*, Hamilton E. Smith; *Secretary*, J. J. Mulheron.

Regulating the Sale of Patent Medicines.—A bill has been introduced into the New York State Legislature giving the Board of Health power to regulate the sale of all patent medicines. This is a wise measure, and one that would promote the public good.

State Manufacture of Antitoxin.—Senator Wolf has introduced a bill in the New York Senate, providing for the manufacture of diphtheria antitoxin and other antitoxins in New York City, and for the sale of the same, and for the creation of an antitoxin fund.

Another Consumptives' Home.—Mr. J. H. Schiff and Mr. L. G. Bloomingdale have each given $25,000 for the establishment of a country home for consumptives. The new establishment will be called the Montefiore Country Home for Consumptives. It will be non-sectarian and entirely devoted to the poor.

Dr. Vander Veer Appointed Regent.—Dr. Albert Vander Veer, of Albany, has been elected by the Legislature Regent of the University of the State of New York.

The Hospital Book and Newspaper Society.—The twentieth annual report of the Hospital Book and Newspaper Society states that the amount of reading matter distributed during the past year was as follows: Books, 6,310; magazines, 18,853; illustrated papers, 63,326; newspapers, etc., 152,385.

Roosevelt Hospital is to be enlarged by the addition of a five-story building to the west wing; the estimated cost is $125,000.

Influenza is very prevalent in England. Forty members of Parliament, and fifty members of the staff, and one-third of the employees of the Bank of England are down with it.

The Antitoxin Treatment of Diphtheria at Vienna—Another Sceptic.—No less than three meetings of the Society of Physicians of Vienna were taken up by a discussion on this subject, but it cannot be said that anything new has been brought before the profession as a result. The majority of the speakers were in favor of the treatment, and the opposition raised by Professor Kassowitz was more a criticism of the scientific value of Behring's discovery than a report of his own personal experience, which he confessed extended only over eight cases. These cases all recovered, but Professor Kassowitz could not see that the improvement took place quicker than it might have been expected to do under any other treatment. The following figures illustrate the results obtained with antitoxin by the chiefs of the Vienna hospitals: Primarius Gusendinger, of the Rudolfs-Kinderspital, had 27 cases of diphtheria, of which 11 died, the mortality being under 40 per cent.; the mortality from diphtheria before the antitoxin treatment had been 45.5 per cent. Primarius Heim, of the St. Josef-Kinderspital, had 27 cases of diphtheria treated by antitoxin, of which 6 died, a mortality of 22.6 per cent. From November 4th to December 18th last, when no antitoxin could be obtained, 32 cases of diphtheria were admitted to this hospital, of which 21 died, with a mortality of 65.6 per cent.; while from December 18th till January 10th, 21 cases of diphtheria were treated by antitoxin, of which only 4 died, giving a mortality of 19 per cent. The mean mortality from diphtheria at this hospital during the last ten years, had been 51.1 per cent., with the maximum of 58.7 per cent. and the minimum of 38 per cent. Professor Monti, of the Poliklinik, had treated 25 cases of diphtheria with antitoxin, and only 1 case has died. He drew attention to the fact that post-diphtheritic paralysis occurred in a high percentage of his cases, and said that in 7 cases he had observed erythema to follow the injections, so that he believed them to be not quite innocuous. Primarius Unterholzner, of the Leopoldstädter Kinderspital, had treated 30 cases with antitoxin, of which 8 died, the mortality being 26.6 per cent. When antitoxin could not be obtained, the mortality rose to 66.7 per cent. The discussion lost the character of a quiet scientific debate, and became very personal at the last meetings. Some of the most eminent physicians in Vienna appeared to conclude as a result of the debate, that medical men would do well to study more closely the pathology and symptomatology of diphtheria before entering into dialectics on the value of the antitoxin treatment.—*Lancet.*

Union Medical Association of Northeastern Ohio.—The programme for the annual meeting which was held at Akron, February 12th, was as follows: Lecture, "On Certain Congenital Tumors of the Head and Neck," Dr. Carl A. Hamann; essay, Dr. J. D. Harmon; lecture, "The Alimentary Canal from a Therapeutic Standpoint," Dr. Eli Conn; essay, "Recent Lacerations of the Perineum," Dr. James Fraunfelter; report of cases, Dr. J. P. Boyd, Dr. T. H. Brannon, Dr. R. J. Baird, and Dr. S. J. Shetler. Topic for discussion, "Anæsthetics," opened by Dr. W. C. Jacobs, alternate Dr. A. B. Walker. Officers for the ensuing year were elected at this meeting.

The Next International Congress of Gynecology and Obstetrics meets at Geneva in September, 1895. It will discuss the subjects of Eclampsia, Displacements of the Uterus, Pelvic Contractions, Pelvic Suppurations, and Abdominal Sutures.

Rupture of Spleen during Coitus.—A curious chapter in pathology could be written by one who could collect the histories of the various accidents occurring during coitus. Local troubles, such as rupture of the penis, rupture of the vagina, penetration of the bladder, would be found with some frequency. Attacks of epilepsy and of cerebral hemorrhage have also been noted. Among the strangest of all accidents is one recently reported by Harrison, of Bristol, England, namely, rupture of the spleen.

A Statue for Dr. Gross.—A joint resolution permitting a bronze statue to be erected on public grounds in Washington in honor of Dr. Samuel D. Gross, and appropriating $1,500 for preparation of the site, was reported from the Library Committee in the Senate and passed.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 7, 1895.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Committee to Raise Library Fund.—DR. REGINALD H. SAYRE, Secretary, said that at the suggestion of the Council he offered a resolution directing the President to appoint a committee, not exceeding twenty-five members, for the purpose of securing the sum of one hundred thousand dollars to place the library upon a solid basis. Adopted.

In accord with a motion to appoint a committee of three on the death of Dr. A. L. Loomis, the President appointed Drs. W. M. Polk, F. Delafield, and A. H. Smith.

Election of Vice-President.—Drs. Ellsworth Eliot and Virgil P. Gibney having declined a nomination, but one nominee remained for the vacancy in the office of Vice-President, and on motion the Secretary was directed to cast an affirmative ballot for Dr. Daniel Lewis. Dr. Lewis was declared Vice-President.

Some Considerations on the Materia Medica and Therapeutics.—DR. E. G. JANEWAY read a paper with this title, prefacing it with the statement that his purpose was to elicit discussion rather than to impress his own ideas. He did not expect unanimity of opinion with regard to the points about to be discussed, especially with regard to what should and what should not be retained in the materia medica.

There were some who believed that all preparations now in the materia medica should be retained, because some might wish to use this, others that kind. The question had frequently come to him as a teacher and student, whether it would not be possible to reduce the number of drugs which it was compulsory to memorize without crippling the beginner's resources in the treatment of disease. Would not such a step be a benefit by allowing the memory to fix itself more advantageously upon the physiological properties and therapeutic indications of drugs instead of upon numerous preparations? Such a plan might be carried out by printing the materia medica for students with the necessary preparations in the text as at present, while less essential preparations were put in parentheses, separated by a line, or placed in the appendix. In this way he thought the unnecessary could be eliminated from the student's crammed mental storehouse.

Here, however, the chief difficulty arose: Who should decide what was necessary and what unnecessary? The teacher would say, teachers of materia medica in the colleges. There was no doubt, Dr. Janeway said, that if each of us were to look conscientiously over the list of drugs which he used, a radical reconstruction of the materia medica on a different basis would result. For instance, since he had left the hospital he had never prescribed assafœtida. He had never seen a case which could not be treated better by other remedies. Sarsaparilla, he thought, was another unnecessary drug. Much of the reputation which both of these enjoyed depended not upon their own activity, but rather upon other ingredients included in the mixture. Among tonics and vegetable bitters the student might be required to learn only the more useful, such as cinchona, gentian, quassia, colombo, and nux vomica. Trouble in making selections might be encountered on such lines as whether willow bark should be included in order to speak of the value of salicin. Dr. Janeway had never used willow bark, but had used salicin. In the class of anthelmintics half a dozen of the drugs in the long list would best answer the purpose of destroying round worms and tape-worms, and the pharmacist would be relieved of the necessity of keeping in stock drugs or preparations which lost their value long before he received any order for their use. Cathartics were also present in large numbers, many of them rarely used, some being retained because they entered into the compound cathartic pill.

Then the synthetic chemists had been at work, trying to produce a panacea of pain, a safe antipyretic, hypnotics, remedies sure to produce red blood-globules and hæmoglobin, non-poisonous antiseptics, etc. If we were to discuss the efficacy of ergot for the control of internal hemorrhage other than uterine, there probably would be a great variety of opinions expressed. This question would have been settled long ago had there been fewer remedies, so-called, of this kind.

The question would be raised as to the method which should be adopted of informing students of all the derivations and antagonisms of remedies. Dr. Janeway would leave that to the professors of materia medica and toxicology. He thought a number of them should be relegated to the supplemental portion. Every combination of iron had been tried, but there was no reason why the student should try to memorize all. Regarding colchicum, of which the materia medica contained numerous preparations, one fluid extract of the seed and root should be sufficient. Another evil was the tendency to recommend some new salt of well-known remedies. This was strikingly illustrated in connection with bromides. The city physician to whom a patient was referred from the country felt that he must prescribe some more efficient preparation than the commonly accepted ones. Much had been claimed for the strontium salts, but they had not come up to expectations. Why should students be obliged to remember all the preparations of opium and rhubarb, and their doses?

Passing to a different phase of his subject, Dr. Janeway mentioned some objections to tablet triturates, which had come to be so generally employed. A chief one was their insolubility. The physician who used large tablets, as of sulphonal and other preparations difficult to dissolve, must not be surprised on getting no effect. In the case of certain tablet triturates, as of corrosive sublimate, he had found patients unable to bear half as large a dose as of a solution of the same drug, the reason being that in the latter form it was distributed over a much larger surface of the stomach.

The author thought medical men did not always appreciate the responsibility which they assumed in endorsing mineral springs or waters which had no special medicinal value. There was no doubt as to the value of some mineral waters when properly used, but it had never seemed to him fair to have patients pay considerable money for something whose only virtue was water.

There was no doubt in his mind that we were led too far in our doing or not doing by the name of the disease. We were inclined, for instance, to treat pneumonia in a certain definite way because it was pneumonia, instead of being governed by the conditions of the case. Incidentally he expressed confidence in having prevented threatened attacks of this disease by diaphoresis, tincture of aconite, and fifteen grains of quinine. Usually, however, too much time had elapsed after the chill before the physician arrived, in order to get the full benefit of this treatment.

It was the first part of his paper which Dr. Janeway wished more particularly to have discussed. Out of the many remedies printed in the materia medica older practitioners had, after hard experience, selected a few; why should medical students be tortured with memorizing all, since most of them would have to be forgotten, the confusion of mind meantime causing indecision in treatment?

DR. WILLIAM H. THOMSON said he had been extremely gratified with the paper. He agreed with the author in the views expressed in nearly every particular. With regard to the excessive number of drugs or

preparations in the materia medica, the most practical comment which he could make was that in his lectures he spoke of one-eighth of those which were officinal, while the other seven-eighths were never mentioned. Of the forty-four preparations of iron he told his students that they would be asked about not more than six. He once illustrated the need of relegating many of the drugs given in the United States Dispensary to a secondary or more distant position by reading with regard to one that it was alleged to have the properties of a tonic, an expectorant, a diaphoretic, an emmenagogue, a deobstruant (he did not know what that meant), and other properties to the total number of fourteen, and what was the remedy? Horehound!

Whatever faults might have been found with his lectures, he supposed one was that he did not speak of all the remedies which students were sure to be asked about on coming up for hospital examinations; but he said he had not found it in his conscience to load their memories with details about drugs which he was sure could be of no service to them in the treatment of the sick.

On the other hand, he was inclined to criticise rather severely the last revision of the Pharmacopœia in greatly changing the strength of well-known preparations and in not sufficiently curtailing the number. In his opinion there should not be a greater number than two or three liquid preparations of opium. The large number at present in the materia medica led to confusion, and was accountable for accidents of poisoning. He cited a personal experience in which the druggist's clerk put up Squibb's preparation of liquor opii compositus instead of camphorated tincture, as his prescription directed. It was with the greatest difficulty that he saved the child.

It was a serious matter to increase the strength of a preparation. Tincture of opium, as prepared now, was twenty-five per cent. stronger than previously; the officinal solution of the sulphate of morphia had been made four times stronger. Magendie's solution here was much stronger than in France, and he knew of instances in hospitals where those who had studied in Paris, forgetting this difference, gave so large a dose hypodermically as to lose their patients. Aconite was one of the best remedies in our materia medica, but only mischief could come from so many preparations. The tincture of the aconite root would save confusion and answer every purpose. There was the extremely dangerous preparation, fluid extract, the physiological dose of which was only half a minim. The present preparation of the solid extract was nine times as strong as the one which preceded it.

Dr. Thomson fully agreed with Dr. Janeway regarding his objections to tablet triturates or pills of any form. If used at all they should be very recently made. Rolling quinine into pills soon caused it to harden. An acquaintance of his who had fever had taken, at successive doses, sixteen quinine pills, and wondered why no effect was produced, until, on going to stool, fourteen were found unaltered. Some tablet preparations were not only insoluble, but they lost their activity. He mentioned nitroglycerine in particular, and said he preferred to administer it in solution.

Regarding the evil of treating diseases instead of patients, it certainly existed to a wide extent. For instance, a man was said to have neurasthenia; how ridiculous to treat such a condition when it was not known what it meant. One said he was treating a patient for anæmia. It would be just as philosophical to say that he was treating him for emaciation. But even greater than the weakness displayed by the profession in treating the names of diseases was that of treating diseases with names. How often did we hear the advice, give him a tonic. Who could define a tonic? The word was from tone in music, but had come to mean anything in medicine which would do the patient good. In a like meaningless way we used the words alterative, nervous sedative, nervous stimulant, etc. There was no general nervous sedative except death; and so-called nervous stimulants increased the function of some portions of the nervous system and depressed others.

Dr. Thomson would like to see a very radical change in our classification of medicines. Two grand divisions recognized by him were: 1, Medicines, one dose of which produced the full effect, or the same effect as subsequent doses—functional medicines; 2, medicines which had to be continued a long time before producing any result, as iodide of potassium given to remove a gumma in syphilis, in which case it did not act as a functional remedy.

The speaker also agreed with Dr. Janeway in his remarks about mineral waters, and said a professional friend once asked him whether he had tried a certain water which the former had found very valuable in Bright's disease. On this recommendation he prescribed it for one of his patients, but she objected to taking it on account of a disagreeable odor. On examination of this specimen, and of another obtained from the proprietors of the water, he found a deposit of all manner of microscopic creatures usually found at the bottom of mudholes.

In conclusion, Dr. Thomson expressed the hope that the paper read by Dr. Janeway would result in the Academy or other medical bodies initiating a movement to eliminate from the materia medica things with which it was entirely useless to burden the memories of already overworked students.

More Corroboratory Testimony.—Dr. George L. Peabody said that as a teacher of materia medica he had come, expecting to be handled by the reader of the paper in a much less gentle manner. As it was, he could corroborate the remarks made, and felt very thankful to Dr. Janeway for the admirable manner in which he had systematized and divided his subject. He agreed with nearly all his propositions. For his own part, he had never been willing to teach students all the different preparations of drugs. He thought it was the function of teachers to lay down certain guiding principles for students which would enable them to judge when certain drugs were called for, and then say to them that these preparations are good and that others are of no account. They should, for instance, learn two or more good preparations of iron, but he would not advise them to learn all the faulty preparations. But there was one thing which had forced him to do more than he would like, namely, the hospital examination bugbear. He had declined to teach the botanical names of plants because he thought it useless, until he was informed that without such knowledge students could not pass an examination to become hospital internes. He was then obliged to say to them that he would give them the botanical name of every plant used in the materia medica; he did not know the names himself, but they might learn them lest they should be asked them by some hospital examiner. It seemed to him that hospital examinations were extremely faulty, especially when conducted by men who were not teachers. Many of the questions propounded seemed intended for the purpose of confounding the student and showing the wisdom of the examiner. Until the hospital examiners should come to be drawn from the ranks of the teachers, the latter would have to teach somewhat wide of the mark. If not, would-be internes would have to go through the treadmill of a cram quiz.

Dr. Peabody thought it was worse than useless to give ergot to arrest cerebral or pulmonary hemorrhage. Most so-called styptics, including tannic acid for intestinal hemorrhage, were useless. Opium preparations were needlessly numerous, and the worst of all was the best known, namely, laudanum. Regarding mineral springs, it was rather painful to him to witness how they were endorsed by doctors. He mentioned

an instance where he was invited to try a certain water, and incidentally to take some stock in the company, and he learned that three members of the Academy had taken some stock, presumably presented to them for booming the water. It was a fact that there was not a single lithia spring which contained enough lithia in any reasonable amount of the water to constitute an appreciable dose. In only one could a person get a moderate dose of carbonate of lithia by drinking a gallon of the water; of the others he would have to drink a barrel.

Regarding faults in the new Pharmacopœia, referred to by Dr. Thomson, he asked if the teachers were not themselves at fault, for they were invited to assist in the revision, and if they had not done so, they were partly to blame. He had seen among country doctors a tendency to use ready-made preparations of all sorts as supplied them by various firms, instead of compounding their own medicines or writing prescriptions. In some of the ready-made pills, tablets, etc., the mixture of the ingredients is very uneven, making them dangerous.

The Other Side.—Dr. Beverley Robinson agreed with most that had been said by the gentlemen who had preceded him, yet there was something to be said on the other side. While there were a good many preparations in the Pharmacopœia which were seldom used by practitioners, some of them entirely useless, yet their presence might help one at times out of some difficulties attending the practice of his profession. For instance, patients with some intelligence were apt to familiarize themselves with ordinary prescriptions, and for one reason or other object to taking them, or perhaps they would have them renewed without instruction. He knew one reputable specialist who overcame this difficulty by writing some hieroglyphic which the druggist understood referred to some prescription left with him. Those long in practice had learned to meet such difficulties; medical students were at a disadvantage after graduation unless taught practical points which could hardly be put into text-books.

Being himself a hospital examiner, Dr. Robinson joined issue with Dr. Peabody in his strictures upon their methods. He was convinced that their object was simply to learn whether those who wished to become internes were able to take care of the patients in the wards, and they asked questions from that point of view. He thought the present time showed too much tendency to the use of alkaloids. It was important that students be taught how to administer drugs in a way to be palatable and agreeable to the stomach. Regarding inertness and insolubility of pills, the doctor should see that his prescriptions went only to druggists who were absolutely reliable, and who never made or sold an insoluble or inert preparation. As to pills, the objections attending them could be avoided by giving powders in capsules. As to mineral waters, he did not base his judgment of their value alone upon their chemical analysis, but also upon the testimony of time.

Dr. Herman M. Biggs said that certainly every teacher of medicine had felt very strongly the difficulties alluded to in connection with the enormous number of drugs, and the enormous number of unnecessary preparations given in the materia medica. He had been in the habit of saying to students, on taking up a certain drug, that there were only a few preparations of it which it was important to remember. But he was in accord with Dr. Peabody, that because of hospital and State examinations they had to give students information which they did not believe would prove of any service to them in practice.

Dr. Biggs thought the error of treating a disease instead of the patient was due to faulty teaching in the schools. The way to correct it was to put general pathology and pathological anatomy on an equal footing with practice of medicine and therapeutics. Until this was done men could hardly be expected to do otherwise than treat names of diseases. One of the hardest things was to get students and doctors to think.

Dr. Biggs said he felt even more strongly than Dr. Janeway had expressed himself with regard to mineral waters. The notion seemed to prevail among laity and profession that there was one spring on the earth intended for the cure of Bright's disease, another for the cure of certain skin affections, and so on. They seemed to think that there was some magical property in the water, whereas its power for good depended solely upon its chemical constituents. In other words, Dr. Biggs did not believe that any mineral-spring water had any influence other than what could be obtained from pure water plus the chemical constituents present in said spring water.

The last statement made by Dr. Biggs led Dr. Robinson to further elucidate his views. Briefly stated, he did not believe chemical analysis would yet enable us to explain the therapeutic value which time had shown was possessed by certain springs.

Dr. Peabody made a few more remarks rather supporting Dr. Biggs.

Dr. Janeway said he had not intended to raise the general question of the value of mineral waters. He believed there had been a great deal of misuse of them.

THE SOCIETY OF MEDICAL JURISPRUDENCE.

Stated Meeting, February 11, 1895.

John S. Smith, President, in the Chair.

Popular Fallacies as to Alcohol and Nicotine.—Albert R. Ledoux, M.S., Ph.D., made this the title of a paper containing the results of his studies as to the injurious ingredients in alcohol and tobacco. He approached the subject from the standpoint of the analytic chemist, rather than that of the moralist, temperance advocate, or advocate of license.

A sign, which read about as follows, seen in nearly all cars, indicated the extent of a fallacy which he wished to combat: "Don't drink. But if you do, drink only the pure article. To be had at ——" The idea conveyed by this and similar advertisements was, that people might drink beer, whiskey, etc., provided the article was pure; they might smoke, provided it was not cigarettes. Those who were accustomed to liquor and tobacco encouraged themselves in the belief that they would suffer no injurious effects, because they used only the products of some reliable manufacturer or some particular brand.

Beers, wines, whiskeys, etc., consisted essentially of water and alcohol, with only two to seven per cent. of other ingredients, unless artificially flavored. The difference between these several beverages consisted almost entirely in the proportion of water to alcohol which they contained. The other constituents were so trifling in amount that we were compelled to accept the statement that there was nothing in them which was injurious unless it was the alcohol. The medical profession and reformers should make the fact clear that if any injury was done it was due to the alcohol; if any benefit was done, it was likewise due to the alcohol, not to the adulteration. After giving the ingredients of different forms of alcoholic beverages, the reader stated the results of an analysis of a number of samples obtained from different saloons in the tenement districts of the city. Where any adulteration was found it related in nearly all cases to the addition of water or water and alcohol. It was very seldom that arsenic, aniline dyes, and other ingredients which might act injuriously were found, and then in such small quantity that no harm could have resulted. In twenty-five samples of brandy no fusel oil was present, and no

coloring matter except caramel. The author did not claim that no injury could come from adulterations, but simply took the ground that, compared with the alcohol, their injurious effects were absolutely insignificant in the quantities found, and this was true even of salicylic acid, which was sometimes added.

Taking up the second division of his paper, the author said that legislation against smoking cigarettes had been to him one of the most interesting phenomena of recent government, especially as he happened to know something of its inception. He was requested by a large dealer in cigars to analyze a number of samples of cigarettes, being told frankly that the sale of cigarettes was so intruding on that of cigars that they wished to lead the public to believe that cigarettes were exceedingly injurious. He undertook the examination as a matter of business, but found no injurious properties not present also in cigars. The cigarette paper contained cellulose, it was true, but not the one-hundredth part as much as was contained in one cigar. It had been asserted that cigarettes contained opium, but he had found none, and the flavoring ingredients used were comparatively harmless. In fact, he found cigarettes adulterated to no greater extent than other forms of tobacco, and any injurious effects which they might exert should be ascribed to nicotine. This was true of tobacco used in any form. But he learned that other chemists had also been set to work, and soon all the newspapers of the country were flooded with matter bearing on the injurious effects of cigarette-smoking, and singular laws were enacted to combat the habit. The form of tobacco most injuriously adulterated was snuff. As prepared for smoking, it could be said that the nearer the article came to being absolutely pure, the higher would be the percentage of nicotine, and there was nothing in the adulterations which approached in potency for mischief nicotine.

In conclusion, let doctors inform their patients in all candor and fearlessness that it was the alcohol and nicotine which they must let alone, and not attempt to shift them from port to sherry, or cigar to pipe, under the vain delusion that they would not be injured.

Dr. T. D. Crothers, of Hartford, was among those who took part in the discussion. He was quite pleased with the scientific character of the paper, and was entirely in accord with the author that the injury done by alcoholic beverages was due to alcohol, and that the injury done by tobacco was due to nicotine. But on the question of the value of alcohol as a nutrient, as a stimulant, as a force-producer, as a medicine, the medical profession was divided. To determine these questions scientifically required close observation and acumen. He had himself been working on the line undertaken by several in Germany and France, of first testing the susceptibility of the different nerve-centres in persons in health, to learn their normal acuteness, and then applying the same tests after the administration of alcoholic beverages. There was general accord in the observation that alcohol diminished the muscular sense, the sense of sight, hearing, temperature, etc. Two ounces of alcohol would produce a very appreciable depression of all the senses, including the intellect.

Dr. Quimby, Dr. Vandenberg, and others made some remarks, some of them wandering from the subject and defending the use of alcohol in medicine and as a beverage, some opposing its use altogether.

The British Orthopædic Society is the name of a new association organized at a meeting held in London on November 3d. Mr. Keetley was elected treasurer, and Messrs. E. Luke Freer, of Birmingham, and A. H. Tubby, of London, secretaries. There is to be no permanent president, each meeting electing its own chairman, as is the rule in the Dermatological and Physiological Societies.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, December 26, 1894.

George C. Freeborn, M.D., President, in the Chair.

Sarcoma of the Heart.—Dr. J. S. Thacher presented the specimen. It had been taken from a man, fifty-nine years of age, whose history revealed nothing bearing upon this condition. Eleven months ago, after some exposure, he began to suffer from dyspnœa, palpitation of the heart, and vertigo. Five months ago he noticed œdema of the feet, which lasted for about one month, and afterward was noticed occasionally to a slight degree. He lost flesh rapidly. Two months ago he came to the hospital. At that time he was emaciated, but not anæmic. An examination of the heart revealed only a moderate roughening of the sounds at the apex. There was some pain in the abdomen, chest, and left shoulder, and later there was severe pain in the epigastrium. About one month ago, grating friction sounds were heard over the apex of the heart, and there were signs of fluid over the left chest. A needle was introduced and clear serum withdrawn, which gave no cultures. The urine showed a trace of albumin, and some granular and hyaline casts.

The temperature was elevated most of the time, ranging between 100° and 103° F. At the autopsy, an abundant fibrinous pericarditis was found, and in the wall of the left auricle a firm mass measuring 3 × 2 × 1½ inches.

It was situated to the back and right of the left auricle, and to the left of the right auricle and superior vena cava. On section it was yellow, gray, and red in patches. Projecting from this into the left auricle was a nodular polypoid mass, measuring 1 × ½ × ⅓ inch. The ventricles were small. There were small vegetations on the mitral and aortic valves, and a slight adhesion of two of the aortic cusps. Each pleura contained above one litre of pure serum. Examination of the stomach showed behind the cardiac orifice a firm mass, three inches in diameter. On section it was cheesy in appearance, and was broken down at the centre, and there was a communication with the stomach by an aperture one inch in diameter. Microscopical examination of these growths showed them to be small, round-cell sarcoma, with considerable hemorrhage and necrosis.

Mycosis Fungoides.—Dr. George P. Biggs exhibited sections of the tumors presented to the Society at its last meeting, as examples of mycosis fungoides. He also reported that the cultures from the meningitis case were pure cultures of the diplococcus lancilatus, and that animals inoculated with these cultures died promptly.

Sarcoma in a Rat.—Dr. Biggs then presented the left anterior extremity of a rat, showing a tumor involving the shoulder and neck. The tumor was well encapsulated, and divided into large lobules. It measured 7 × 4½ × 3½ centimetres. On section, it was for the most part gray, but there were a number of reddish patches, apparently due to hemorrhage. Sections of this tumor were also exhibited under the microscope. They showed it to be a myxo-sarcoma.

The cells of the sarcomatous portion were round cells, small and medium-sized ; a few had two nuclei, but most of them had a single nucleus. The growth was extremely vascular, and through it were scattered areas of hemorrhage. In the same animal, the kidneys showed very marked chronic diffuse nephritis, with the formation of cysts of quite large size. The surface was distinctly granular. The liver contained a small cyst, within which was a worm, 3½ ctm. long, 1 mm. at its small end, and 3 mm. at the larger end.

Anniversary Meeting, January 9, 1895.

GEORGE C. FREEBORN, M.D., PRESIDENT, IN THE CHAIR.

Aortic Aneurism.—DR. GEORGE P. BIGGS presented a specimen of aortic aneurism, which had been removed from a male, forty-three years of age, who had been admitted to the New York Hospital, May 21, 1894. He stated that he had had syphilis when fifteen years of age. He was moderately alcoholic. On admission, he was complaining of cough, and of a pain in the right chest, right arm, and side of the head, which had existed for about one year previously. In the month previous to his admission he had felt something give way while he was putting on his coat, and this had been quickly followed by cyanosis and choking, and by the appearance of a swelling on the side of the neck. Previous to this, some pulsation had been observed in the neck.

Physical examination revealed the following: Diminished voice and breathing at that time over the right chest, both anteriorly and posteriorly; a systolic murmur of low pitch, heard at the apex, and transmitted slightly to the left; in the second left intercostal space there was a systolic murmur, heard over the right border of the sternum, and transmitted upward to the right, and to the vessels of the neck, and heard with maximum intensity in the first right intercostal space. Over the right side of the chest behind, there was a loud, double, blowing murmur, one systolic and the other diastolic. The left radial pulse was slightly stronger than the right. The arteries were slightly tortuous. The liver extended two inches below the free border of the ribs. There was marked œdema of the entire head and neck and upper portion of the thorax; no œdema elsewhere. Over the dull region in the upper part of the chest in front, where the percussion note was dull, there was a distinct pulsation and thrill.

The œdema of the chest increased; he developed œdema of the arms shortly after admission, and later œdema of the abdominal walls and genitals, and fluid appeared in the peritoneal cavity. These symptoms improved after admission, and he was discharged from the hospital; but during the summer he returned on three different occasions, for a few days at a time, because of the dyspnœa. He was last admitted on November 13th, and presented at that time very marked œdema of the neck, head, and upper portion of the chest, the œdema being most marked in the right upper extremity. The face was rather cyanotic, particularly about the ears. He suffered very greatly from dyspnœa, and complained of a constant choking sensation. The cyanosis and œdema increased, and he died on November 30th.

At the autopsy, made on the following day, the œdema of the head, neck, and upper extremity and upper portion of the thorax was still very marked; the peritoneal cavity was normal; the right pleural cavity contained 1,200 c.c. of serous fluid, and there were a number of old and very dense fibrous adhesions over the right upper lobe. The left pleural cavity contained 200 c.c. of serous fluid. The pericardial fluid was slightly increased in quantity. In the upper portion of the chest, just above the heart, and a little more to the right of the median line, was a large ovoid tumor, measuring 11 ctm. vertically and 8 ctm. in its antero-posterior and transverse diameters, and having a circumference of 28½ ctm. The tumor was partly covered by the right lung, which was very intimately united with the tumor. It extended down sufficiently far to depress the parietal layer of the pericardium over the right auricle, and the surface of the tumor was adherent to the parietal layer of the pericardium at this point. It almost completely covered the ascending and transverse portions of the arch of the aorta and the vessels arising from the transverse arch. The heart was slightly hypertrophied. The valves appeared to be normal, although the orifices on the left side were both fairly large, and there had probably been some leakage. The coronary arteries were distinctly atheromatous. On opening the aorta the tumor proved to be a large aneurism, arising from the junction of the ascending and transverse portions of the arch, about 1 ctm. to the right of the origin of the innominate artery. The opening into the sac was round and very large, measuring 4½ ctm. in diameter. The edges were quite sharp and smooth. The sac was filled with post-mortem clots, and there were no layers of stratified fibrin on the inner surface. The entire length of the aorta showed a very advanced degree of atheroma.

The point of interest in the case was a communication found between the interior of the sac and the superior vena cava. The sac-wall was everywhere quite thin—only one to two millimetres in thickness—and, undoubtedly, ruptures had occurred at two points, and the effused blood had been encapsulated, as was shown by two nodules filled with old blood and blood crystals.

The aneurism had markedly compressed the superior vena cava, and the opening leading from the sac into the vena cava was oval in shape, and measured 1½ ctm. vertically by 1 ctm. transversely. The right innominate and the upper portion of the superior vena cava were very much dilated, and had a diameter of 2 ctm. Below this opening the vena cava was so compressed that the lumen during life must have been very largely occluded. A probe passed down from the jugular above, entered the sac of the aneurism, and did not follow the normal course through the lower portion of the vessel. Both the orifice of the right subclavian vein and that of the right internal jugular were guarded by a very perfect bicuspid valve, which had completely prevented the forcing of any blood from the aneurismal sac into these vessels themselves. The force of the blood was expended on the right innominate and upper portion of the vena cava. The wall of the subclavian vein was considerably increased in thickness. The left innominate was found to be completely occluded from a point about 2 ctm. from its origin across to the right innominate, the course of the vessel being along the upper wall of the aneurismal sac. The left jugular was quite moderately dilated, and the walls not specially increased in thickness. The internal mammary vein was quite large, but aside from this no special changes were observed on the left side. The speaker said he had been unable to determine how the blood had been returned from this side, although it was probably through the communicating branches across the front of the neck. The organs of the neck had been taken out *en masse* without knowing at the time of anything unusual in this region. The communication between the sac and the superior vena cava was very clearly an old one, the opening being perfectly smooth and sharply defined. Undoubtedly the opening occurred last April, at the time the patient felt something give way in his neck.

The wall of the vena cava was adherent to the aneurismal sac for a considerable distance below the point of communication.

Localized Empyema.—DR. THOMAS S. SOUTHWORTH presented a specimen of localized empyema. It had been removed from a child in the Nursery and Child's Hospital, aged seven months. According to the history it had been sick for only two weeks, and a diagnosis had been made of broncho-pneumonia. On opening the chest at the autopsy, a cavity was seen lined by a pyogenic membrane, but otherwise dry. This displaced the heart to the left. It was about the size of an egg. Looking underneath the edge of the ribs a small opening was seen in the anterior axillary line, situated close to the ribs, about half an inch in diameter. Inserting the finger into this opening, a cavity was revealed posteriorly, which contained about one ounce of pus. There were a few areas of recent broncho-pneumonia in the other lung.

The interesting feature of this case was the fact that one of these empyemic cavities should be found entirely empty, while the other was nearly full of pus. If an incision had been made in the chest anteriorly during life, the child being in the recumbent position, little or no pus would have been evacuated.

Rupture of the Bladder and Peritonitis.—Dr. James Ewing presented the specimen. The patient, a man forty-four years of age, of alcoholic habits, had been admitted to the Roosevelt Hospital on January 2, 1895. He had been drinking the day before, and was found on the morning of January 2d on the steps of his house. He then vomited and passed some bloody urine. By the time he reached the hospital it was evident that he was suffering from general peritonitis, but its cause was not apparent. Soon after admission he was catheterized, and two ounces of clear urine removed. Its specific gravity was 1.025, and it contained a trace of albumin, uric-acid crystals, and epithelium from the bladder. For the next three days he passed a normal quantity of clear urine, but on January 5th the urine had a specific gravity of 1.032, was alkaline in reaction, and contained a trace of albumin, and apparently gonorrhœal threads. He died on January 8th.

At the autopsy all the organs were found to be normal, except the peritoneum and bladder. The peritoneal cavity contained a small quantity of gas, and was moderately distended with a turbid fluid, said to have had a peculiar odor—probably ammoniacal. No point of origin for the infection could be found until the bladder was reached. The bladder projected into the pelvic cavity like a hen's egg, and was rather thickly covered with fibrin. After taking out the bladder, some of these layers of fibrin were removed, disclosing a lesion in the posterior surface of the fundus. An incision through this coat did not show that the rupture had been complete, but on the inner surface of the bladder, beneath the abrasion on the peritoneal surface, the folds of the bladder were œdematous and infiltrated with blood. There had been, apparently, an attempt at healing, as there was some difficulty in separating the edges of the rent. It was interesting, therefore, to note the occurrence of rupture of the bladder from some unknown cause, and unattended by any symptoms except those due to the peritonitis. It was also interesting to note that after peritonitis had been excited, the process of healing in the bladder itself should have begun, making it difficult to demonstrate the rupture at autopsy. The whole thickness of the abdominal wall in front of the bladder had been carefully examined, and no ecchymosis or any other evidence of injury had been found.

Dr. S. T. Armstrong said that the condition found in the specimen would seem to eliminate an external traumatism. It was possibly the result of catheterization.

The President thought it quite probable that the bladder had been greatly distended during a spree, and that the man had fallen at this time, and had received a blow over the bladder.

Dr. Ewing said that the mucous membrane showed no sign of traumatism, whereas the lesion was evident on the peritoneal surface; hence it was fair to exclude traumatism from the introduction of an instrument.

Dr. W. G. Le Boutillier said that the urine did not ordinarily contain pyogenic germs, so that its escape into the peritoneal cavity ought not to set up peritonitis. For this reason, one should look for a traumatism or some method by which the micro-organisms were conveyed into the bladder and peritoneal cavity.

Australasian Medical Congress.—The fourth intercolonial medical congress of Australasia will be held at Dunedin, New Zealand, in February, 1896. One of the principal subjects for discussion will be tuberculosis in man and the lower animals.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE ARCTIC WAVE OF WEATHER—THE NEW ELEMENT IN THE ATMOSPHERE—PARACENTESIS PERICARDII—EMPYEMA IN CHILDREN—RESECTION OR INCISION.

London, February 8, 1895.

We are in the midst of a spell of "Arctic weather," as we are told by everyone who stops to say a word. It is certainly superfluous information, for everyone seems shivering, and even the skaters, who have been longing for a good time, admit that it is quite cold enough. Death from cold and exposure is not uncommon, and the mortality of the aged, the very young, and the feeble will certainly be increased. We are not so well prepared for extremes of temperature as you are in New York, so whether from cold or heat, we feel it more. The deaths from respiratory diseases are rising, but there may, perhaps, be a makeweight in some other direction, provided this inclemency does not last too long.

The torpor caused by the cold has fallen upon some of our medical associations, and it is not so easy to excite interesting professional conversation as in more genial weather. Some of one's friends seem as torpid as the new element, and this remark reminds me that Lord Rayleigh and Professor Ramsay seem to have made good their claim to the discovery of the said new element; at any rate they have brought it before the Royal Society, where the assembled savants expressed satisfaction and offered congratulations.

The discoverers have named the new element "argon," on account of the extreme inertness which seems to be its most characteristic property. It is customary to speak of nitrogen as the negative element in the atmosphere, but it may be called activity itself in comparison with this argon, which may well typify *vis inertia*. It is not yet regarded as impossible that argon may be in reality a compound body or a mixture of two gases. Argon has been liquefied and also solidified, and notwithstanding its inertness it is certain to interest medical observers as well as chemists, for certain physiological effects may be due to it, and in that case its medical aspects will not be overlooked.

The operation of paracentesis pericardii is not very often performed, although some differences of opinion seem to prevail as to its gravity and its value. These were brought out at the last meeting of the Medical Society, when Dr. Percy Kidd related a case which may be fairly called successful, as it gave great relief in a very severe case with granular kidney, cardiac dilatation, and uræmic asthma. In fact it was stated that, except for the tapping, many who saw the case believed the patient could not live many days. He was, however, greatly relieved and continued better for four weeks, death eventually taking place as the result of advanced renal disease. The first tapping gave exit to five fluid ounces, the second to twenty-eight ounces of sanguineous fluid; the good effects were marked on the circulation, respiration, and secretion. The relief to dyspnœa was very marked, showing that this symptom arose from the difficulty under which the heart was laboring. Dr. Kidd adopted the conclusions of Dr. Samuel West's paper in the "Medical and Chirurgical Transactions," 1883. These conclusions are: 1. That the operation is not only justifiable, but may be safely undertaken with ordinary precautions. 2. The most suitable place is in the fifth left intercostal space, one inch from the edge of the sternum; but if the pleura be adherent the puncture may safely be made further out and even in the sixth space. 3. The instruments should be a trocar and cannula, with or without aspirations. 4. The

operation may be performed not only in effusions of rheumatic or primary origins, but in those of the later stages of general dropsy, if the fluid in the pericardium is adding to the cardiac difficulty.

These conclusions scarcely met with full approval, for, as pointed out by Dr. Sansom, in some forms of pericarditis the operation could not be justified, and in many was attended with difficulties; and he instanced cases called by Dr. Sturges pamcarditis, with swellings and adhesions, where the presence of fluid was a small point in the case. Mr. Marmaduke Shield also held that the operation was only suited to very special cases, and was by no means so easy or satisfactory as Dr. West's statement made out. Then, Dr. Carr mentioned a case which he had seen post mortem, in which the pericardium was enlarged in all directions, but the heart itself so fixed by adhesions, that in any attempt at operation the needle must have penetrated the ventricle. On the other hand, Dr. Ewart fully agreed with Dr. Kidd and Dr. West, and mentioned several successful cases, and urged the propriety of laying the pericardium freely open, mentioning cases to show that merely inserting a trocar was not sufficient.

Another subject considered at the same meeting was the treatment of empyema in children which Dr. Cautley brought forward in a paper, analyzing 84 cases with a mortality of 16.6. Of 12 treated by aspiration, only 1 died, 1 ruptured externally, and 1 through the lung. Of 35 treated by incision and drainage, 7 died; and of 33 by resection and drainage, 6 died. The duration of after-treatment gave one or two weeks in favor of resection.

Dr. Cautley held that evacuation of the pus is the only sound treatment; aspiration is sometimes useful, but thick effusions will not pass through the cannula, so that the cavity cannot be emptied and it rapidly refills. Resection affords the best drainage, and gives facility for exploring the cavity and breaking down loose adhesions, while there is less danger of hemorrhage and recovery is more rapid. At least, these are the views generally entertained, but, as Dr. Cautley pointed out, they are scarcely supported by this series. Moreover, resection is more severe, should not be resorted to in children under two years, and naturally it causes increased liability to pyæmia and deformities of the chest, so that it should only be employed when a tube could not be inserted without it and when drainage was imperfect, or for the cure of an old sinus. Mr. Morgan said operation would be more speedily effectual if made at an earlier date, as physicians had almost a superstition for the trocar. He preferred resection and thought irrigation useful; Dr. Morison, however, did not approve of irrigation, and thought resection only necessary in neglected cases. From these expressions of opinion we may gather that, much as resection has advanced of late years, the treatment can hardly be regarded as settled.

THE CATHOLIC CHURCH AND OBSTETRICAL SCIENCE.

To the Editor of the Medical Record.

Sir: The importance of the question touched upon in an article on page 147, in the Medical Record of February 2, 1895, entitled "The Catholic Church and Obstetrical Science," shall be my apology for the following criticism:

In said article you have endeavored to prove that the principles of the Rt. Rev. Bishop of Augsburg, Germany, as elicited in his recent pastoral letter, in which he says, *verbatim*, "that it is a sin and morally reprehensible for a physician to induce artificial abortion, no matter how imperatively the safety of the mother demands it," are not in unison with the Catholic Church.

As authority for your assertion that this (the Bishop's teaching) is not the authoritative teaching of Rome you refer to an anonymous writer (whom, however, the editor endorses as "inspired") in the *Münchener medizinische Wochenschrift* of December 25, 1894.

For a preliminary remark I may be allowed to say that, from a prospective stand-point of view, it appears that you have chosen decidedly the weaker side of the case at issue. Here we have on one side a well-known, clear-minded, truthful, very distinguished, and learned prelate, a lawful member of the hierarchy, an authorized judge, teacher, and promulgator of Christian morals. On the other side we have the negative statement of an anonymous writer, whose source of inspiration is not clear, that it is not the "true science" the climax of which is fœticide.

Let us now try the case unprejudiced, unbiased, fair, and impartial. I have the honor of presenting to you the Rt. Rev. Bishop of Augsburg, who says, according to your own quotation, "that the induction of artificial labor, the child being alive, is under no circumstances allowable;" in other words, persists in that the faithful shall obey the Fifth Commandment, "Thou shalt not kill;" to which there is no exception and whereby the end can never sanctify the means. That this is and must be the teaching of Rome is self-evident, and consequently binding upon all the faithful who recognize the authority of the Catholic Church; but to clear the Bishop beyond a reasonable doubt we will now give evidence which the most sceptical must accept that the Bishop is no heretic, but in his full right, and that his teaching is also the teaching of Rome.

As far as Dr. Wirthmüller is concerned, I am unable to trace his authority, but would be thankful for information and quotations regarding him. In his place I put, first, A. Kōning, an author who is in this country universally accepted. He says plainly that the induction of premature labor is homicide, even at a stage when the fœtus has not yet life. He refers to the dogma Immaculatæ Conceptionis B. M. V., of which we take the following extract: "*Nunquam licet directi procurare abortum*" (It is never allowed to produce directly an abortion). See A. Köning's "Theologia Moralis," vol. i., No. 474. To save space I refer only to the theological works of S. Alphons Liguiri, L. iv., No. 394, and Lacroix, L. iii., p. 1, No. 823, upon whose teachings Köning has based his assertions and decision as they are authorized by Rome. We have also consulted Lehmkuhl, and find in his works nothing contradictory to the teaching of the above-named authors, the Bishop of Augsburg, or Rome.

We find in his book the decision of the Council of Baltimore, which is *that it is not allowed*, that it is "a sin and morally reprehensible" "to induce artificial abortion, no matter how imperatively the safety of the mother demands it" (Lehmkuhl, Part I., No. 848).

On the following page Lehmkuhl cites the letter of the assembled bishops in Baltimore to the Holy Congregation of the Inquisition, in which they ask if it was right to teach that it was allowed, under certain conditions, to produce abortion, to which the prompt answer came: "*Tuto doceri non posse*" (It cannot be taught at all), R., signed Cardinal Monaco, Secretary of Congr. Inquisition. We think we have given sufficient proof, or at least the keys to proof, that the Rt. Rev. Bishop of Augsburg is in the right and the anonymous "inspired" writer wrong.

Now a few remarks upon your own statements and your logic. You recall a judgment of cardinals in Rome which was given in favor of craniotomy or any operation directly tending to destroy the life of fœtus in utero, *i.e.*, "Rome did not condemn this operation if performed under the authority of approved medical teaching and in the interests of the mother." Mr. Editor, I fear your memory does not serve you well and I advise you to look up the case. I am sure you will not find a decision from Rome where the destruction of the fœtus under any pretence is sanctioned. You

will find, perhaps, that means which save the life of the mother directly, and may cause the death of the child indirectly, are, under certain conditions, allowed. Whatever those means may be, they must have the double effect of saving the mother and not necessarily and directly killing the child. This is the teaching of Rome to the extremest extent. A premature delivery not necessitating the death of the child may, under certain conditions, be allowed. Craniotomy never!

Your logical as well as conservative opinion, "If it is wrong to take one life to save another, it cannot be lawful to suffer two lives to be destroyed when one might have been saved," I let stand at its face value.

Just one more question: Who saves or destroys when in case of craniotomy both mother and child die? I think statistics have shown that in craniotomy thirty-five per cent. of the mothers have died, in addition to one hundred children killed, while in cases of Cæsarean section there was only a death-rate of forty-eight per cent. in all. Compare this, and you have a saving of 87 lives. Of course you have here against the lives of 100 children the deaths of 13 mothers. Whether or not these 13 mothers, if saved, are worth more than the 100 children is a question of wide range. It seems, however, against the law of nature to destroy proper metamorphosis in its fruit, selfish and brutal in its very nature indeed. It is surely not the teaching of Rome! Herewith we have, I think, finished our case.

JOHN HUND, M.D.

CHIPPEWA FALLS, WIS., February 13, 1895.

HOW MEDICAL CHARITY IS ABUSED.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It has been some time since the MEDICAL RECORD has raised its voice against "The Dispensary Evil." I trust you have not become discouraged or have concluded to remain silent on a topic so important to the readers of the MEDICAL RECORD. The more I see of dispensary service the more I am convinced that some reform should be inaugurated, and only those unable to pay for medical attendance should be entitled to the privileges of such service. It is the dispensary doctor whom we should censure. He treats every patient that comes, with the hope that he may now and then "run in" to his office some who are able to pay a trifle. We who do this are "cutting our own throats," if we but knew it. Over and over again cases are treated that in no way should be recognized. The evil was forcibly brought to my mind only the other day. A woman, keeping a fashionable boarding-house in the neighborhood of Madison Avenue, always visits a dispensary when she requires medical service. Were she to moderate a little her bibulous propensity and pay for medical attendance out of such savings, I am sure she and some striving doctor would both be benefited. In the same house, the wife of a man who receives a salary of $2,800 per annum, has for months attended the free out-door department of a hospital here in New York. Another case, and, mind you, this is in the same house, a man with rheumatism receives free electric treatment at a dispensary. His wife earns $50 per week, on the stage.

Now, is this fair? If one household produces such instances, is it not fair to presume there are many others of like character. The young, and sometimes old, doctor, who walks to the dispensary because he wishes to save car-fare, is imposed upon by such cases every day in the year. In contrast to this, look at the services our legal fraternity render to the poor. What are they? None at all. Recently a friend had occasion to consult a law-book. Not being a member of the library, he was not allowed to look into a book at any of the law libraries in this city. Why? Because lawyers don't wish laymen to find out any point of law unless they consult a lawyer and pay for the advice. We doctors should know the dignity of our calling, and be entitled to proper compensation from those who can pay. I am sure the income of doctors would be greater than it is to-day were the dispensary service more guardedly performed. As a reform measure, I would suggest that all patients seeking treatment should first be obliged to make application at the office of the United Charities Organization, and receive from that body a ticket signifying that the holder is a proper person to receive dispensary service.

Yours truly,

OLD SUBSCRIBER.

February 15, 1895.

CORPORAL PUNISHMENT FOR FELONIES AGAINST THE PERSON.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: If the records of police station-houses, or the court proceedings and examinations of police magistrates, could be opened to the public, sentimentalists would soon find reason to change their views regarding the necessity for corporal punishment for certain crimes. But public decency forbids the newspaper publication of the facts. A professional and official experience of many years in the downtown district east of the Bowery and extending to the East River has convinced the writer that the prevalent methods of punishment for the crimes alluded to are notoriously inadequate. The population of this district is largely made up of foreigners of the lowest classes of Continental Europe, with the addition of many Chinamen, and the crimes and attempted crimes against the persons of children by these degraded wretches are revolting in the extreme. Instances coming under my personal knowledge might easily be multiplied, but their recital would only fill sensitive and unsullied minds with horror and disgust. But as physicians and sociologists the question that concerns us is the famous one: "What are you going to do about it?"

What would be thought of the surgeon who, discovering a malignant excrescence on the body of a patient, would hasten to conceal it under the immaculate folds of a white bandage lest it offend the public eye, and neglect to apply thoroughly the eradicating knife, even at the risk that some squeamish onlooker might faint at the sight of blood? Yet there is a social cancer threatening the lives and purity of those children whose parents, by force of poverty or other circumstances, are compelled to bring them up in sections of this great city where morality is an unknown quantity to the hundreds of criminal outcasts from other lands to whom this country opens its hospitable shores. Are our present laws sufficient to hold this danger in check? It has been held by those who oppose corporal punishment that it is vengeful. No law of the State has any right to exact revenge. State laws have three functions of punishment, medicinal, deterrent, and retributive. As punishment is medicinal, it serves the offender; as it is deterrent, it serves the commonwealth; as it is retributive, it serves the offended party, being a reparation offered to him. Beyond and above any law of the State, there is the Eternal Law which says that every creature should act in the mode of action proper of its kind, and to the Author and Creator alone belongs vengeance. But the judge who orders, and the castigator who inflicts, corporal punishment are not animated by a desire for revenge. Theirs only to see that the State which they serve fulfils its whole duty in protecting its members, by deterring the evil-disposed from crime. The same minds which shrink from the infliction of corporal must also advocate the abolition of capital punishment. "Whoso sheddeth man's blood, by man shall his blood be shed," may seem to them to be a relic of bygone barbarity unsuited to this altruistic age. Yet where is the State to-day with its men so ideally virtuous that the right to visit gross crime with death can do otherwise

than strengthen their virtue? The writer does not share the conviction of a recent accomplished writer in the MEDICAL RECORD that we are daily becoming more degenerate, but he has daily brought to his mind the fact that unbridled passion and lust are still as rampant as they were twenty-two hundred years ago, when Aristotle wrote that the multitude obey on compulsion rather than on principle, and from fear of pains and penalties rather than from a sense of right. Although the day may come when capital punishment may be practically abolished by reason of the extreme infrequency of its employment—a consummation devoutly to be wished—yet the power to inflict it must always remain latent in the State. No government yet has dared to renounce it.

This proves that the human mind universally recognizes that the first condition of appropriate punishment is that it be manifestly proportioned to the crime. "Not the least appalling thing about crime—atrocious crime especially—is the example that it gives and the imitators whom it begets," says an able writer on moral philosophy. And, continuing, he says, "The one preventive is to append to that deed a punishment, the image of which shall also enter into the mind, excite horror, and disenchant the recipient." Of what corrective use is it to take a brutalized, half-fed, ill-housed loafer from the streets for a time, and ensconce him among the comforts of a modern penitentiary, with its regular hours, regular meals, and safe shelter from inclement weather? Is such punishment medicinal, deterrent, or retributive? And yet a recent discussion at the Society for Political Study (*New York Herald*, February 13, 1895) brought out the suggestion that convicts be employed in ornamenting their cell walls and embroidering their own garments, in order to awaken a love of the beautiful. Murderers awaiting execution are deluged with flowers and sympathetic notes from that portion of the community which forgets that the victims were hurled into eternity without warning, as the result of a deliberately conceived plan.

It is alleged that corporal punishment deprives man of one of his congenital and inalienable rights, to wit, personal dignity. But every right has a corresponding duty, and the correlative duties of the right to personal dignity are sobriety and chastity, duties which bind always and for always. What can further degrade a man who has sunk low enough to commit a crime against nature? "He hath matched himself with senseless beasts and become like unto them" does not fitly describe him. He has gone lower than ever beast was known to go. Let those who think the picture is overdrawn examine for themselves the conditions existing among certain people of this city, never alluded to in polite society. Let them understand the corrupt influences at work, sapping the very vitals of our youth in unnatural sexual practices. The pages of Suetonius are mild by comparison with what actually occurs every day, even, and especially so, in the so-called intelligent and educated classes.

Krafft-Ebing has described nothing which cannot be duplicated here, if those are to be believed whose duty throws them into contact with vice. Are these people votaries of vice or are they insane? If the latter, some lunatics are filling positions of great responsibility and trust.

Corporal punishment, or the fear of it, may yet prove to be the only wholesome means of checking the spread of this moral pestilence, but its causes, prevention, and treatment open up too wide a topic to be discussed in this paper.

CHARLES E. NAMMACK, M.D.,
Surgeon of Police, New York.
29 EAST TWENTY-FOURTH STREET.

"The Practitioner."—Dr. Malcolm Morris has assumed the editorial management of this journal, his duties beginning with the new year.

WHAT IS THE PARTICULAR TREATMENT?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In a recent issue you published a very interesting article by Dr. Illoway, of New York, on nervous dyspepsia, in which he stated that he had achieved a degree of success in the treatment of that condition to which my efforts have been directed as yet without satisfactory results. In a later number of the MEDICAL RECORD he was asked to give his treatment, and that request remains without published response, I believe. I cannot believe that it is due to any reluctance on the part of the doctor to let his brethren of the profession know of his method, but think that he may have replied by letter directed to the writer who asked for information. I am another who would like to be instructed in the good way.

At present, the results obtained by Dr. Illoway, if produced in several of those who depend on me for help, would give great happiness to them, and corresponding gratification to me. Can I hope to get the desired help through the columns of your excellent journal?

Very truly yours,
H. L. MANCHESTER, M.D.

PAWLET, VT.

THE LATE DR. LOOMIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: With your kind permission I would like to add my little tribute to what has already been said, and well said too, by Dr. Rupp, in the last issue of the MEDICAL RECORD, concerning the characteristics of the late Professor Loomis.

To the thousands of students who had the pleasure of listening to Professor Loomis's lectures, the announcement of his death must have come, as it did to the writer, as a sense of personal bereavement.

His was not the nature to immediately attract those who came within the sphere of his influence; on the contrary, there was something in that robust, sturdy form that appeared to be actuated by a spirit, if not of repulsion, at least of aggressiveness. But as time passed on and one grew to know him better, the streaks of kindliness which now and then flashed from the impulses of his generous nature served but to heighten and intensify the love and admiration the students bore him.

Loomis was unquestionably a great teacher, but by no means a brilliant one, if brilliancy means a display of pyrotechnic eloquence which left the student lost in admiration of the style of his utterances, but compelled a small share of passing attention. But if true eloquence is characterized more by what is said than in the manner of saying, then Professor Loomis was truly eloquent. The plain, concise method he adopted in imparting information, the thorough ventilation of every subject he undertook to teach, and the splendid manner in which he seized upon the salient features of the different diseases while giving clinical instruction, illuminating them from the vast storehouse of his individual experience—these will long linger in the minds of the thousands of students who had the good fortune to attend the University during his connection with that able institution.

Beneath a bluff and somewhat aggressive exterior the waters of a kindly nature pursued their even course, undisturbed by the animadversions of carping critics. While ever open to conviction, yet once he had marked out the path he was to follow he walked it unflinchingly. To the students he was ever fair and just, and it was on this account he was less feared than many others when the finals took place. He was a man of uncommon soundness of judgment and of rare common-sense. And, Mr. Editor, it is the men of sound judgment who leave their impress upon the

character of our institutions, medical or otherwise, rather than the brilliant minds whose flashes are too far above the earth to effect any permanent good. And to us old students, who have passed beneath the portals of our dear Alma Mater without forgetting her interests, it is a source of regret and sorrow that the voice of Loomis will no longer be heard in her councils.

The University has had many eminent men among its corps of teachers, men whose names have gracefully and deservedly borne international reputations; but among them all there is none whose name is so closely and intimately associated with her best progress and development as that of Alfred L. Loomis. And if it be true that life is not to be measured by the mere passing of the years, but by the amount of work performed and of good accomplished, then, judged by such a standard, Dr. Loomis passed more than the allotted time of man upon earth.

There are many professors still connected with the University whose names are endeared to the old students of a decade of years ago, for one reason and another, but among them all that of Loomis, *illustre et venerabile nomen*, stands prominent.

JOHN J. MORRISSEY, M.D.

HARTFORD, CONN., February 8, 1895.

MALARIA AS A WATER-BORNE DISEASE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Replying to Dr. Dalrymple's letter of January 26, 1895, the Doctor says I "stand alone as an individual" in the views I have given to the profession on the subject of malaria as a water-borne disease. I may have stood alone, but I no longer do so, since the wide-spread audience your broadly disseminated journal gives one has elicited an interest in this subject among the brightest minds of the profession, and I have therefore been the recipient of scores of private letters giving the most gratifying assurance that the authors have made observations that bear the best evidence we can now command that the position I am led to contend for is worthy of the calm, earnest, and active consideration of the profession, in the fact that their observations agree with my own. In my second article, read before the Mississippi Valley Medical Association at Hot Springs, Ark., last November, a few of their letters are quoted from.

When one makes statements it is always proper to do so from reasonably accurate premises, and it must be clear to everyone who has done me the honor to read my articles that if the desire is only to subvert them, rather than to get at the facts, such a person should at least come to the subject with hands clean of personality, epithet, and sophistry, and the statements made as to conditions that might be supposed to refute my position ought to be based first upon a fair and uncolored quotation of my assertions.

Now let us examine how far Dr. Dalrymple has done this: He states the water-supply of New Rochelle is "considered good." He, however, must also state to the intelligence of the nineteenth-century up-to-date readers of the MEDICAL RECORD how and why it is "considered good." He should tell us that the water has been tested by experts, and who they are, and that in no instance was the palustral parasite found, and therefore the water is "considered good;" as he does not do this we are left open to the possible doubt as to whether the water is actually worthy of being "considered good" simply because there has been no evidence given your readers that it is good and demonstrated to be free from palustræ by means within the reach of well-informed medical men.

He states that every care is taken to prevent contamination in these (surface?) springs that supply the village. He must also state, for the judgment of your self-thinking scientific readers, what care is taken; they can then judge of the adequacy of the care for themselves. He states in his first letter, in MEDICAL RECORD of November 10, 1894, that the persons attacked (with malaria?) were of all nationalities: Italians, Irish, Germans, Swedes, negroes, and last but not least, native-born Americans. In his last, of January 26, 1895, he tells us the persons attacked were "Italians all." Which statement are we to believe, or are we to take him seriously at all as knowing the facts?

He says that Italians don't run to doctors with malaria. Are we, therefore, not to infer that he didn't see or examine any of the alleged cases at all, by examining the blood for the presence of the palustral parasite, always present in palustral fever—an easy, simple, and necessary precaution to enable him to say that the cases were really malarial and not something else? or did he, in the report of these cases, do as he says he did with reference to his lay neighbors whom he says attributed their sickness (malaria?) to the digging up of the ground, and "I [he] certainly agreed with them."

What an assertion for a medical man, who ascertains the lay diagnosis, and "certainly agrees with" the lay diagnosticians, and this in the light of all the facilities for accuracy of diagnosis possessed by nineteenth-century medical science for the investigation of suspected cause, existence, and effect that would place the diagnosis, source, and existence of malaria beyond the realm of mere lay medical opinion or moss-grown dogma, by which the doctor by his own word admits he was guided.

He says his little boy had also malaria, but he did not get it through any water or milk, for both were sterilized, and that quinine, etc., were useless in his child's case. The treatment refutes the accuracy of his diagnosis, as the well-known specific power of sulphate of quinine to destroy the palustral parasite in the blood has been too well demonstrated to make it necessary here to say that the therapeutic history of the case bears the suspicion of mistaken diagnosis.

He says the water and milk used by the child were both sterilized. There must have been a query in the minds of the readers of the MEDICAL RECORD as to what were the methods of sterilization, as more than half of them known to the profession are worthless in practical results.

I may be allowed to intimate that it yet remains to be proven that the palustral parasite is not transmitted through the blood of the cow into the milk, just as tubercle bacilli are. These investigations will go on, and all the avenues will be considered by the profession that can possibly be inimical in the introduction of the palustrae into the human organism.

It is also yet to be demonstrated that the parasite does not find a nidus in the tissues of the several edible ground vegetables I have spoken of heretofore, as well as melons and other ground fruits. The source of ice added to sterilized water ought always to be considered.

He says the New Rochelle water-supply is from springs, and has a fall of one hundred and eighty feet in one thousand. What is the bearing of this statement on the question? Are we to infer that such a fall is fatal to the palustral parasite?

He says he does "not question my long experience, accurate and original investigation, but I say (he says) his (Daly's) field and time have been limited in comparison with others."

Limited, forsooth; limited to a range of swamp and malarial region from Manitoba and the Red River of the North, and along the Atlantic coast to Florida, to Cuba, Yucatan, and other States of Mexico, and through more than thirty States of the Union; limited to an area inhabited by more than fifty millions of people; limited in time to a period of over twenty years. Certainly we must take his statement of "limited" in a Pickwickian sense.

Respectfully, W. H. DALY, M.D.

PITTSBURG, PA.

SCIENTIFIC VERSUS OBSCENE MEDICAL LITERATURE.

To the Editor of the Medical Record.

Sir: Under the above heading, you published in your last number an editorial, which presumes to believe that for some reason or other, medical literature could be excluded from its present mail privileges if obscene literature were, through the passing of a strict and special law, prevented from enjoying them.

Permit me to copy the wording of the bill proposed by me for the consideration and acceptance of the Medical Society of the County of New York, and of the New York Academy of Medicine. They were as follows:

"Be it enacted, etc.,

"That medical books, pamphlets, and circulars, the contents of which are of a character not proper for general and indiscriminate perusal or circulation, shall not be admitted to nor transmitted through the mails unless enclosed in sealed envelopes or wrappers, and prepaid at letter rates of postage, *or unless addressed for delivery to or in care of physicians, surgeons, medical schools or colleges, or students in such schools or colleges, or to dealers in medical publications, and directed to them as such.*"

It appears, Mr. Editor, you overlooked the last clause of the proposed bill altogether. If it were passed no medical journal or book would be interfered with, indeed, medical men and students, schools and dealers, would still enjoy the advantage of receiving, free of cost, their advertisements of "Dr. W., female specialist," of the "Power Wafers," of the "Constitutional Tonic Wafers," of the "Way of Escape," etc. It is true our boys and girls would not so easily be reached by the miscreants, as hitherto. Nor would they be told where the office can be found, and when, and at what price, where their bodies may be defiled, and their souls contaminated. A prominent postmaster in the United States received the following note from a father: "The enclosed disgusting pamphlet was received through the mails by my son (fifteen years of age) yesterday. I do not know whether it is a violation of the postal regulations to use the mails for transmission of matter of this kind, but I consider it decidedly indecent and demoralizing." This note was accompanied by a glaring circular describing "how the celebrated Sultan's or Turkish wafers came to be introduced to Americans." It was the same postmaster who suggested to me the bill as printed above. It is at present in the hands of the Hon. E. J. Dunphy, a representative of this city, who is a member of the House Committee on Post Offices and Post Roads. I do not say it is the best possible bill, but it is a better one, and more efficient than you supposed it to be in your editorial of last week, and does not in the least interfere, as you will now admit, with the unhampered circulation of *medical* journals, magazines, pamphlets, or books. It will, when passed, protect to a certain degree against the filthy sheets disseminated by quacks as privileged mail matter.

You, Mr. Editor, and your colleagues of the medical press, have great facilities in impressing and directing the conscience of the medical profession and the public at large. As that is so, your duties and responsibilities are just as great, and I fully believe you will benefit the community by again studying, and then recommending (amended, perhaps), and urging upon the representatives of the people, the bill introduced by me at the suggestion of a gentleman who had great opportunities to learn of the vast amount of obscene literature distributed over the country, under the protection of the law of the land.

Very sincerely yours,

A. Jacobi, M.D.

110 West Twenty-fourth Street, February 26, 1895.

[After this explanation we not only agree perfectly with our distinguished correspondent, but give the measure our heartiest endorsement.—Ed.]

New Instruments.

A LENS-HOLDER FOR FACILITATING RETINOSCOPY.

By WILBUR B. MARPLE, M.D.,

Assistant Surgeon New York Eye and Ear Infirmary; Adjunct Professor of Ophthalmology New York Polyclinic.

Long since the writer became convinced that in the determination of refraction the method of examination known as retinoscopy, or better, skiascopy, surpassed in accuracy almost all other methods. On account of the comparative cheapness of the apparatus or instruments necessary, it commended itself, moreover, to many who came under his instruction. The only drawback has been the inconvenience of changing the lenses on the face of the patient, seated as he is a metre away from the observer. The following device has been used by the writer for over a year, and is submitted to the workers in this department of medicine with confidence that it will prove to be as great an aid to others as it has been to him.

As is seen by the figure, it consists of a frame (containing a series of lenses) which the patient holds by the handle in front of the eye under examination. Two frames, one containing convex and the other concave lenses, are all that are necessary. The number of lenses in each frame and the variations in their strength are matters of individual taste. After using various combinations, the writer now employs a series of six lenses, beginning with 1 D. and going up to 6 D., each lens of the series being 1 D. stronger than the one preceding. This enables one quickly to determine the error to within 1 D., provided this error is not greater than 5 or 6 D. For those unusual cases where the error is greater, there is a small sliding frame behind containing a single lens of 6 D. which can be quickly slipped up over the other lenses, one after the other, making the combinations of 7 D. up to 12 D. Where one desires to determine the error more closely than within 1 D., there is a small sliding frame in front containing three lenses, 0.25 D., 0.5 D., and 0.75 D., which can be slipped up over the others. In the frame containing the convex series the writer employs as the fractions concave lenses; in the frame containing the concave glasses, the fractional lenses are convex, for reasons which will be at once apparent.

The method of employing it can best be illustrated by our case. Let us say our patient has a hyperopia of 2^5 D. He takes the holder and places it vertically before the eye so that he looks through the top lens (+ 1 D.). The observer sees at once that this is not strong enough, and accordingly the patient is told to move the frame up so that he looks through the next lens (+ 2 D.). And so we continue until we reach + 4 D., when we see that we have over-corrected. We then slip the small

frame up till its first lens (— 0.25 D.) covers the + 4 D. (—0.25 + 4 D. = + 3.75 D.). We see that the error is still overcorrected. We slip the next fractional lens (—0.5 D.) up over the + 4 D. (= 3.5 D.). Now we observe that the error is just corrected, and this has all been done in a very few moments. There is a small spring clip on the small sliding frame, which snaps into a little slot just when the moving fractional lens is exactly over the other.

At the suggestion of Dr. Gruening, a metal flange was attached at each side of the frame. (See figure.) These prevent the holder from resting immediately in contact with the face or forehead, and thus soiling of the lenses by the perspiration or oil of the face is avoided.

With this device the writer has determined with great rapidity and accuracy the refraction of a large number of cases in a large clinic, which cases included not only simple myopia and hyperopia, but also cases of astigmatism—compound, simple, and mixed.

In conclusion the writer would refer to one immense advantage of retinoscopy over the ophthalmometer. In the determination of the amount and axis of the astigmatism, the finding of the ophthalmometer leaves little to be desired. But as to the kind of astigmatism, it gives us no clew. It may be all hyperopic, it may be all myopic, it may be partly one, partly the other, but as to this the ophthalmometer tells us nothing. On the other hand, when we have completed our examination with retinoscopy, we know exactly the amount of the astigmatism and exactly how much of the entire amount is hyperopic and how much is myopic. This to the writer seems an immense advantage.

(The lens-holder is made by Meyrowitz.)

20 West Thirty-first Street.

A NEW, NON-CONDUCTING SPECULUM FOR USE IN POST-PARTUM AND POST-ABORTUM INTRA-UTERINE DOUCHING.[1]

By EDEN V. DELPHEY, M.D.,

NEW YORK.

About two years ago, I had a severe case of puerperal septicæmia, in the treatment of which I desired a speculum which would enable me to irrigate the uterus

with hot water—in fact, so hot as to cause pain to the sensitive perineal surface. Believing that all sorts of specula had been invented which could be invented, I tried the instrument-makers for such a one, but without avail.

I have experimented with several different shapes, sizes, and forms of blades, handles, etc., during this time, and have decided on the one now presented. It is made of hard rubber, vulcanized on the mould, and will therefore retain its shape no matter how hot the water is in which it may be placed. The blade is similar to a Sims, but without the duck-bill tip. The handle is simply a prolongation or continuation of the bottom and sides of the blade, and is joined to it at an angle of about seventy-five degrees, the handle forming a trough for conducting the solution and débris to a receptacle beneath. The edges of the trough-handle are slightly cut away, about half-way down, to afford a better grasp in holding. At the bottom are two notches and a hole to which the bail of a pail can be either hung directly or fastened by means of a hook, thus making the instrument self-retaining in certain cases.

The instrument is intended for use in post-partum and post-abortum intra-uterine douching and in curetting, and the advantages claimed are: It is simple, light, and cheap. It is a non-conductor of heat, and therefore protects the sensitive perineum. It does not corrode. It can be easily cleaned and rendered aseptic, either by chemicals or boiling. It can be held by an assistant; or, it can be made self-retaining in certain cases. The débris can be seen as it escapes through the trough-handle to the receptacle beneath.

[1] Read at the eleventh annual meeting of the New York State Medical Association, October 9, 1894.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 23, 1895.

	Cases.	Deaths.
Tuberculosis	31	78
Typhoid fever	8	4
Scarlet fever	101	15
Cerebro-spinal meningitis	1	0
Measles	94	9
Diphtheria	189	43
Small-pox	1	0

The Late Dr. Little and the Royal College of Physicians.—It is a curious illustration of the antiquated notions of the London College of Physicians, that for long years the late Dr. Little, the "father of British orthopedy," was passed by in the elections to the Fellowship because he performed operations (for club-foot, etc.). Some of the Fellows indeed loudly asserted that they would always oppose anyone who performed the most trivial surgical operation. And yet the obstetric physicians who perform ovariotomy are welcomed. An evidence of the consistency of the sticklers for the old-fashioned divisions of medicine. In 1877 some of the Fellows woke up to the absurdity of their position in not having among them so eminent a physician whose pupils were of their number. Accordingly Dr. Little was surprised one morning to learn that he had been elected a Fellow. It shows the amiability of the man that, instead of rejecting so belated a compliment, he quietly paid the heavy fees for the empty honor, lest otherwise he might hurt the feelings of any who had taken a lead in the matter.

Defective Color Sense in Asiatics.—Among the publications of the German Asiatic Society of Tokio, Japan, for 1894, is a paper by Dr. F. B. Stephenson, United States Navy, with the title "Color Blindness in Asiatics," giving the result of observations among the natives of Hawaii, Unalaska (Aleutian Islands), Japan, China, Annam, Siam, including the mixed nationalities from Borneo and India who inhabit Singapore and other parts of the peninsula of Malacca. None of these peoples appear free from defective color sense.

Football Casualties.—Under this heading we published an account, in the issue of December 15th, of a student at the Fairfield Seminary who was said to have become violently insane as a result of injuries received at football. A correspondent informs us that the acute insanity was not due to injuries received in the game, but that it was evidently due to over-exertion, a cause which had been effective in exciting the previous attacks.

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Original Articles.

PECULIAR PERVERSION OF THE COLOR PERCEPTION.[1]

BY HOMER E. SMITH, M.D.,

NORWICH, N. Y.

MR. PRESIDENT AND GENTLEMEN OF THE CHENANGO COUNTY MEDICAL SOCIETY: The following case is of more than usual interest, not only from the standpoint of diagnosis, but because it presented one peculiar feature which, so far as I can ascertain, is unique.

H. S——, male, white, aged eleven, of healthy native parentage. Ancestral history good on paternal side, on maternal side paralytic attacks occurring late in life. Eldest of seven children, all others healthy. Had whooping-cough in infancy, and two or three months ago scarlatina, with which there were no, nor have developed later, renal complications. No history of injury. Up to eight days ago, dating from time when history was taken, was perfectly well. Then was noticed slight dragging of feet, absence of usual buoyant step, and an emotional disturbance shown by causeless weeping. Three days later the child said that white surfaces were brown and objects smaller and distorted. At this time the parents noticed inco-ordination in gait (staggering, shooting forward). The child complained of headache (moderate, constant, occipito-frontal). Formication and tingling in arms, fingers, and along the course of the upper dorsal nerves; backache (dull, constant, in lower cervical and upper dorsal regions), and of pain during mastication in temporo-maxillary articulation. There has been no nausea, vomiting, loss of consciousness, or convulsions.

Physical Examination.—Nervous System: Motility unimpaired, limbs placed quickly and correctly in any ordered position. Finger placed instantly on any designated spot. Strength: Hand-grip weaker in right (is right-handed). Co-ordination: Writes as usual and signs his name well with eyes shut. Stands with feet slightly separated, with weight thrown more on left foot, sways slightly, but does not fall when eyes are closed. In walking staggers and shoots forward, but does not fall. Spasm: No muscular twitchings or contractures. Reflexes: Knee-jerk and ankle-clonus abolished. Superficial reflexes preserved. Sensibility: No hyperæsthesia, sensation to contact and pain diminished on both sides, more so on right (leg, trunk, and arm). Subjective sensations as mentioned in history.

The following associating tracts were tested and found to be in perfect working order: The temporo-frontal, occipito-temporal, occipito-temporo-frontal, occipito-central, temporo-central. There is no paresis or paralysis of any of the peripheral nerves. Intellection not disturbed in the least. Special senses, smell, and taste unaffected. Hearing: tuning-fork reactions show B. C. normal for from 128 S. V. to 2,048 S. V. For 128 and 256 S. V., B. C. < A. C. (This, with the slight tinnitus and pain present in both ears, was attributed to local causes.) Hearing good. Vision, O. D. = $\frac{4}{12}$; O. S. = $\frac{6}{12}$. There is no strabismus or conjugate deviation of the eyes. Motion perfect in all directions. Pupils equal and of normal size, contract to light exposure, consensually, to convergence, and to peripheral excitation of the retina (Wernicke's test). Fields, marked peripheral limitation, greater in right. No scotomata. Accommodation not impaired. Selects colors correctly as to shade, but each appears in its complementary, *i.e.*, red is called green, green appears as red. Blue looks like yellow, and yellow, blue. White appears brown. Has micropsia and metamorphopsia. There is moderate photophobia present. Has in each eye monocular polyopia. The ophthalmoscope shows, O. D., diffuse neuro-retinitis. The bulk of the trouble is in the retina, which is œdematous and opaque. The papilla is not swollen but is markedly congested, with a nearly complete obscuration of the choroidal ring. Veins slightly tortuous, no hemorrhages. O. S., same condition, lesser degree. Internal organs: Heart and lungs healthy. Bowels regular. Bladder function not disturbed and urine normal to repeated chemical and microscopical tests. Sleeps well and quietly in usual attitude. Nutrition good. Appetite fair. Tongue slightly coated. Digestion not impaired. Pulse, 64, usual rate about 70. Respirations, 16 to 18. Central temperature normal, with no variations at any time; surface temperature not taken. The child was given three times daily five-grain doses of potassium iodide, which was to be increased by one grain each dose until its constitutional effects became manifest. This treatment, however, was discontinued on account of the rapid improvement, and tonics substituted. For three or four days there was a slight though progressive increase in the symptoms as mentioned in history, and a temporary disturbance of the special senses of smell and taste. This lasted about three days and was of the anæsthetic type. Improvement then began, shown by return of sensation in body and limbs. Co-ordination became re-established. Vision progressively improved. The micropsia and metamorphopsia vanished, and lastly the color sense became normal. At present writing, four weeks from the onset of the disease, there remains only a slight nervousness and a tendency to emotional disturbance.

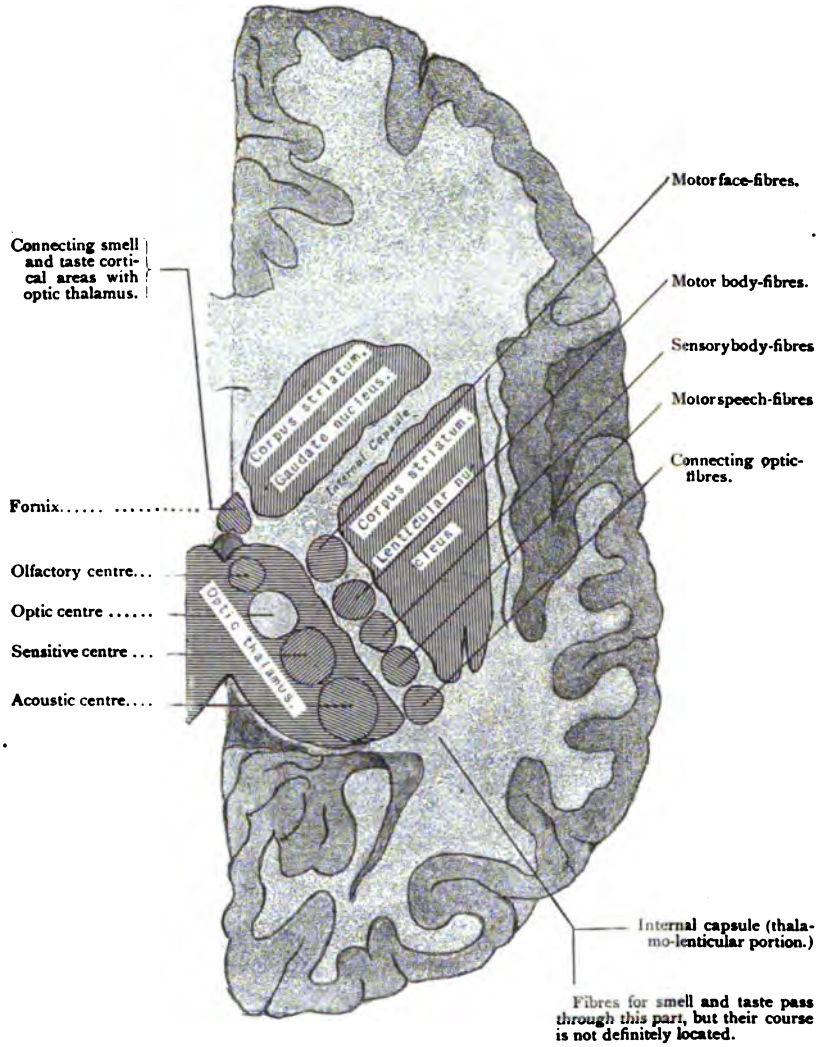
Analysis: The question of diagnosis was to be answered by, 1, the nature of the lesion, and, 2, its location. The first question can only be answered by saying that there was present an intra-cerebral, localized effusion, probably hemorrhagic. The second is thought to admit of a more definite answer.

It is evident, to begin with, that this was not a cortical disturbance. To account for the varied symptoms on this assumption would be to assume extensive lesions over the parietal, temporal, and occipital lobes; these could not occur without grave general disturbance of motion and sensation together with loss of consciousness, with or without convulsions. Moreover, the presence of the optic neuritis, together with impaired motion and sensation on the same side, would point to nuclear disturbance. We must therefore seek for an intra-cerebral lesion, and this was most probably in the left optic thalamus with pressure effects involving the internal capsule in its thalamo-lenticular division.

I have prepared a plate (shown on next page) representing schematically a half section of the brain, at the level of the basal ganglia, which will help to elucidate what I have to advance in support of this diagnosis.

[1] Read by title before the Medical Society of the County of Chenango.

The presence of four isolated ganglia in the optic thalamus is given on the authority of Luys. The separate fibre-bundles in the internal capsule and their functional attributes are in accord with the views of neurologists generally. It can be readily seen how even a circumscribed lesion in this region can give rise to many and varied symptoms. Taking these up in detail and in their order of occurrence, we first had disturbance of the motor and sensory body-fibres. The



SECTION THROUGH BRAIN, LEVEL OF BASAL GANGLIA. (Right half.)

inco-ordination in gait was more probably a sensory than a motor interference, from the fact that motility was but slightly impaired, and other co-ordinated acts were well performed.

Next in order the irritation of the visual centre, shown by the perversion of the color perception and the resulting neuritis, bringing loss of vision and distortion of objects seen. These latter symptoms will be commented on at length in closing. Lastly, were the olfactory and gustatory fibres of the internal capsule involved, and this involvement manifested by the disturbance of the senses of smell and taste. It is known within how small an area all these centres are practically contiguous, and in this case they seem to have been progressively invaded by the compressing effusion. There is a difference of opinion among neurologists regarding the existence of special sense-centres in the thalamus, but the presence of fibres in the internal capsule which are connected with these senses is practically proven. Hemianopsia, with difficulty in the discrimination of color, sometimes occurs in lesions of the capsule and optic neuritis from pressure thereon.

In commenting on the ocular symptoms there are many points of interest, with much that is negative but which possesses positive value. To begin with, optic neuritis is not a localizing symptom of brain disease. It may simply be the expression of a general dyscrasia, but when bilateral is probably of cerebral origin. The most frequent general causes are syphilis and chronic nephritis. Local causes are cerebral anæmia, cerebro-spinal sclerosis, intra-cranial aneurisms, and, most frequently, intra-cerebral neoplasms. The course and progress of the disease under consideration practically shuts out all these, for while optic neuritis is common to them all, each has its distinguishing features which were absent in this case; moreover, the acuteness of the ocular trouble was presumptive of an acute causation. The condition of the fields precludes the possibility of a cortical lesion; with this in the cuneus or adjacent to the calcarine fissure, we would have had lateral hemianopsia. The peripheral limitations of the field could be accounted for by damage involving the optic commissure, but the pupillary reflex and other symptoms negatived this. The condition of the pupils was of diagnostic value. Responding as they did when light was thrown on the periphery of the retina, where the field was wanting, it showed that the lesion was either back of the communicating fibres of the optic tract to the motor-oculi nucleus, or higher up in the thalamus or internal capsule. Aside from the perversion of the color perception, the visual disturbances may be accounted for by the intra-ocular disease. Micropsia may be due to paralysis of accommodation, but this function was unimpaired. Moreover, the presence of the metamorphopsia showed a disturbance of the retinal elements, for when these are separated by an effusion light rays from an object of given size fall on fewer percipient points, and consequently the object appears smaller; also, if this separation be not uniform a distortion results. The apparent doubling of objects, on being tested, was found to exist separately in each eye, and was undoubtedly an exaggerated distortion. The reduced central vision and the contracted fields are usual accompaniments of neuro-retinitis. There have been cases reported of monocular diplopia or polyopia which were traumatic neuroses, the result of spinal concussion; these have sometimes been accompanied by colored vision. In other cases presenting this group of symptoms, autopsy has shown minute hemorrhages scattered through the brain; chromatopsia or colored vision, *i.e.*, where all objects are seen of one color—for example, as red or yellow—is the result of retinal irritation.

The most remarkable feature in this case, and which makes it of such interest, is the peculiar perversion of the color perception. There is nothing in the literature at my command which bears even indirectly upon it, and the foremost ophthalmologist of this country, to whom the case was submitted, was unfamiliar with it. Hallucinations of the special senses exist, but this cannot be classed as one of them. Paresthesias of these nerves give rise to subjective symptoms with which we are familiar, but in a case like this, as in others of unexplained visual phenomena—for example, where reading is only possible with the book reversed—we must fall back on the "scientific imagination." From the known data of the physiology of vision and the perceptions of color, I can draw no plausible conclusion in explanation of the facts given. There seems, however, to be a reasonable certainty that there exist separate cortical areas for light, form, and color, and probably intra-cere-

bral nuclei for the due ordering and arranging of impressions thereon. May it not be possible that the optic centre of the thalamus presides over the latter function, and that its disturbance was the causal factor in the perverted color-perception herein detailed? There are many isolated unexplained phenomena of cerebration here and there reported, but from which, perhaps, may be drawn, out of seeming confusion, the law which governs them. To put on record a most interesting case, and in the hope that it may contribute somewhat to the formulation of the law, this paper has been written.

ON PLEURITIC EFFUSION, OCCURRING AS A TERMINAL SYMPTOM OF PLEURO-PNEUMONIA.

By BENJAMIN F. WESTBROOK, M.D.,

BROOKLYN, N. Y.

It may be interesting to the practitioners of our art to have presented to them at this season, when the prevalent diseases begin to assume the type of affections of the respiratory organs, a short study of the characteristic features of one of those deviations from their ordinary clinical histories by which familiar diseases are rendered obscure, and through whose occurrence cases which had caused no anxiety to the attendant, at least on the score of their diagnosis, suddenly and without apparent cause develop unexpected and very annoying symptoms.

It is one of the most provoking experiences in a physician's work, and, moreover, an extremely embarrassing one under some circumstances, to have a case of the diagnosis of which there has seemed to be so little doubt that he has perhaps committed himself even to the extent of making a rather confident prognosis, maybe announcing from day to day that everything is proceeding as he had expected, when, of a sudden, his enthusiasm is congealed, his pride humbled, his confidence annihilated by a most extraordinary transformation scene. The entire complexion of the case has changed. Unusual symptoms, the reverse of what he had foretold, present themselves so distinctly that they are unmistakable even by the non-professional eye.

He must make a new observation, revise his opinions, and change his plans of treatment under the eyes of a group of friends whose manner, not improbably, betrays a doubt as to the wonderful skill which they had hitherto attributed to him.

No physician of experience will, I think, call this a fancy sketch. We all know that as remarkable changes as this in the outward manifestations of disease may, and frequently do, occur as perfectly normal sequences, and as phenomena which are indicative of the natural succession of physiological movements in some pathological processes.

A very striking and instructive illustration of this statement is observable in the course of that rarity of pleuro-pneumonia which I shall describe.

It is a variety which I have often seen in the practice of medical friends, but it is apparently of such rarity that in the course of an individual general practice it might not be encountered in years, that is to say, in so pronounced a form as to require special attention.

The sequence of the phenomena is as follows: There is at first an acute pneumonia.

As necessarily occurs, when the inflammation of the pulmonary parenchyma is intense and reaches the surface, the pleura covering the invaded area is also inflamed, and, if the latter process is intense enough to warrant the appellation for the case of pleuro-pneumonia, there will be a friction sound, easily detected at first. But hepatization develops with great rapidity and, as may be readily understood, reduces the gliding movement of the lung on the chest-wall to a minimum, as this movement is dependent on the alternating changes in the shape of the organ caused by its expansion and contraction.

If a large portion of the lung is solidified there is very little motion. Besides, the dryness of the pleural surface which obtains at the onset of the process is soon succeeded by an increased and vitiated secretion which gives only a dull, obtuse sound, more like a nondescript moist râle. The pneumonitis, in these cases, so far as I have observed it, is of a high degree of intensity, and sufficient of itself to absorb the doctor's attention. One result of this is the mechanical condition that the hepatized lung, not at all contractile, does not, and cannot, shrink so as to make place for the accumulation of any pleuritic serous effusion.

When the stage of resolution arrives the absorption of the inflammatory exudate begins. But the tissues of the lung, which have during the inflammatory process lost their elasticity, do not at once regain it. The lung still completely fills its pleural apartment. The resolution is going on, apparently, typically; although, if the physician were to observe very carefully the chest movements, he might notice that during inhalation there is an abnormal sinking of the intercostal spaces, as if something prevented the return of the lung's expansion to the degree corresponding to the apparent amount of reabsorption.

This seems to me to result from the excessive hyperæmia of the subpleural tissues, the unusual gorging of the subpleural lymphatics and those of the peripheral pulmonary zone, to the thick lymph that has collected on the surface, and to an excessive degree of coagulation and granular degeneration of the parenchyma. In very high grades of pneumonitis there is also (I infer *a priori*, although I have not as yet collected the anatomical proof of it) a more extensive and more complete temporary loss of that elasticity of the bronchial walls by virtue of which, and of their radial arrangement, they exert a centripetal traction during inspiration.

As the convalescence seems about to be established, it is noticed that the improvement halts; and presently the patient begins to grow worse, with increasing dyspnœa; a more rapid and a weaker pulse; a failure of the appetite and of the digestive power; debility and returning duskiness of the skin. There is an area of increasing perpendicular depth at the lower part of the chest on the diseased side, where percussion elicits no pulmonary resonance, but only the flat sound obtained by percussing over collections of fluid. The peculiar audible and palpable voice-vibration (vocal fremitus) is, as a rule, absent. "As a rule," because it sometimes happens that a portion of the posterior border of the lung, which has not yet lost its hepatic solidity, transmits, through one or more adjacent vertebræ and along the ribs, a distinct vocal fremitus. This is a fact of the greatest importance in the examination of the chest, for it is one of the commonest of all the stumbling-blocks in the path of physical diagnosis. With infants and young children, in whom the superficial area of the lung is much greater, proportionately, than in older persons, viz., inversely as the cube of the linear dimensions, in whom the posterior border of the lung is displaced less during the respiratory movements, and the transference of mobility to the sound side more readily accomplished, the presence of the vocal vibrations and bronchial breathing in the lower half of the chest, particularly posteriorly, is not in any way acceptable as evidence of lung consolidation, and the error of supposing it to be so is productive of many a mistake in diagnosis.

But to return to our troublesome case. As the lung tissue regains its elasticity, its contractile force, which tends always to diminish its size and to separate the two pleural surfaces, acts, as in health, more strongly during inspiration than expiration. Each time the chest expands the tendency of the pleural surfaces to separate favors the occurrence of an effusion into the

cavity between them. *As a result, we get the pleuritic effusion which, had the hepatized lung not prevented it, would have occurred at the beginning.* As the effusion increases the lung retires from the chest-wall, and eventually we have, replacing the pneumonia, a distinct pleurisy with effusion.

I should say, further, that the temperature, if it had previously declined to the normal degree, rises slightly and remains usually at 100° F. or over for a variable length of time. I cannot make a statement of any value as to the duration of this secondary fever, excepting that, in the absence of complications, it does not endure much, if any, longer than for the period of accumulation, dying away at the completion of that process.

It may be, however, as is well known to clinical observers, that the temperature will be somewhat disturbed while absorption is going on.

The pyrexia noticed during the absorption of pleuritic effusions, usually of a mild though irregular type, is probably due to the entrance of peptones into the blood.

The diagnosis of this condition which I have here described depends simply upon the observation of the foregoing facts, viz.: the occurrence of a pneumonia of, as a rule, more than the average degree of intensity, associated at its onset with the signs of acute pleurisy, which are quite variable, and the most certain of which, the friction sound, is apt to be of short duration and not followed by evidences of serous effusion; râles somewhat like a nondescript mucous râle, fine or coarse, usually both, following the friction, and frequently enduring until the beginning of resolution of the pneumonitis; closely following upon the signs of commencing resolution, a change in the percussion sound, which becomes flat; either absence or presence of the vibratory breath and voice sounds of pneumonic hepatization (vocal fremitus and bronchophony), as coincidences of the change in the percussion signs; at the same time, sinking of the intercostal grooves during inspiration, followed by bulging if the accumulation is large; return of the cyanotic appearance of the skin and mucous membranes, and increasing rapidity with diminishing vigor of the heart-beat.

Later on there may be, of course, other signs and symptoms of pleuritic effusion, such as cardiac displacement, jugular engorgement, cerebral and spinal venous hyperæmia, errors in the distribution and movements of the cerebro-spinal, subarachnoid fluid, portal congestion, and the other items of that long series of disturbances which result from the presence of large quantities of liquid in the pleural cavities, and constitute one of the most interesting chapters in pathology.

I need not occupy the space of our genial editor with a long disquisition on the treatment of the condition to which I have here attempted to call the attention of practitioners, and to elucidate as briefly as was possible.

These deviations from the classical course of well-known and well-understood diseases must, necessarily, be dealt with in accordance with the features presented by individual cases, and as the knowledge of the physician in charge indicates to him. There is one especial point, however, that seems to require a distinct rule of practice.

When it is thought advisable to aspirate, this should be done cautiously, and the suction should be taken off the moment any depression of the intercostal spaces is seen. Otherwise the lung, which has probably not yet entirely regained its normal structure, may be injured, or the cavities of the right heart unduly dilated.

Professor Mauthner, who died on October 20th, had been Professor of Ophthalmology at the University of Vienna just one day. He succeeded the late Professor Stellwag.

SEROUS CAVITIES OR SPACES.

By BYRON ROBINSON,

CHICAGO, ILL.

SEROUS cavities or spaces are situated in various parts of the body. They have a similar function and are liable to similar diseases. The serous cavities in the order of their size are (*a*) the peritoneum, (*b*) the pleura, (*c*) the arachnoid, (*d*) the pericardium, (*e*) the serous cavities of the joints. Embryologic or natural development shows that serous cavities are all secondary acquisitions. We saw in the progressive growths of the embryo that the peritoneal or serous cavity arose from the mesoderm or middle germ layer. Small clefts or spaces arise in the lateral portions of the developing embryo, and these spaces finally coalesce, forming a more or less differential cavity as regards size and form.

Thus by changes in the mesoderm the peritoneal sac results. The modifications of the middle germ layer are: cleavage, evagination, folding, and coalescence, which lead finally to the structure faced with shining epithelium and backed with beds of areolar tissue—the serous cavity of the abdomen. From invisible clefts in the mesoderm filled with lymph this sac increases until it comes to have about an equal surface with the skin, and will, in the adult, absorb two quarts of fluid per hour. This important membrane is finally intimately and inseparably connected anatomically and physiologically with three great apparatuses—the digestive tract, the genitals (tubes and ovaries and uterus), and the urinary organs.

This cavity is sooner or later lined by a distinct layer of flat, endothelial cells, with here and there present peculiar apertures (stomata) which are lined with what may be called germinal or glandular cells—probably absorbents leading to lymphatic tracts.

The primitive clefts or spaces in the mesoderm are filled with a fluid which resembles lymph, and to all intents and purposes the peritoneal serous cavity may be looked on as a lymphatic sac. It belongs to the lymphatic system. It is not a passive membrane, but an active absorbent, a regulator of circulation. It may be claimed that the serous membranes act as joint-cavities. They give opportunity for motion. The peritoneal cavity I shall view as a joint-cavity, allowing all the movements necessary for the anatomical and physiological existence of itself and its contained functionating viscera. It may be observed that all these serous cavities, like joints, are liable to similar diseases, as inflammations, tuberculosis, etc. The serous cavities are all really closed sacs. The exception of the female in having two apertures for the Fallopian tubes is not an exception in fact, as regards the closure against the passage of serous fluid; for the valvular condition of the mouths of the Fallopian tubes does not allow serous fluids to pass from the peritoneal cavity through the uterus. Hence, practically, all serous cavities may be viewed as closed lymphatic sacs. As closed sacs they become to a certain extent regulators of pressure. This is best seen in the ventricles of the brain. The fluid sacs allow the brain or delicate organs to rest on soft water-beds, protecting them from sudden changes or trauma. The serous sacs act as buffers modifying rude mechanical movements, and distributing forces to safe regions of more resisting structures. The serous cavities with their contained fluids regulate circulation. Observe how in the horse, after vigorously running for several miles, the large dilated veins stand out on his body surface. The fluid in the serous cavities has prevented sudden changes in circulation in the vital nervous centres and the vital viscera. The fluids in the ventricles and arachnoid could not be rapidly displaced, so that the brain under the vigorous pumping of the heart is comparatively safe, for the blood is forced in directions of least resistance—the wide veins and the delicate viscera are spared shock. All these

remarks apply equally well to the lymphatic joint and serous space, known as the peritoneal cavity.

These serous cavities with their contained fluids not only regulate pressure, motion, and circulation, but they are normally always full of fluids or viscera. The fluids and the viscera in the serous sacs alternately play on each other. The fluid plays a double rôle. It facilitates visceral movements with the slightest friction and fills the spaces in the sac due to small changes in the form of the viscera, thus in a certain measure distributing pressure uniformly on all contained viscera. It is in these great serous sacs that anatomy and physiology arise to their supreme significance in the animal economy. In these sacs anatomic structure and delicate visceral arrangement are combined with the most superior design of a physiologic mechanism. The serous cavities are the real physiologic laboratories of life. The anatomic limitation of serous sacs is purely for physiologic purposes. Anatomy and physiology here as elsewhere go hand in hand.

All organs are outside of serous cavities, since they are closed sacs. All viscera lie outside of the peritoneal sac. However, all viscera which have become invaginated into the walls of the serous sacs have certain supports for anatomical limitations and physiological purposes. We will not discuss here whether the supports (mesenteries, ligaments, and omenta) arise as primitive projections of the mesoderm—designed ridges of cellular tissue covered by serous epithelium—for the purpose of transmitting nerves and vessels to the enclosed viscus, or whether the supports are simply duplicatures of peritoneum. As the viscera increase in size in the adult, with the exception of the liver, they project and invaginate further and further into the cavity. The serous membrane gradually wraps itself around the viscus until it is evaginated into the sac, while its pedicle elongates. All supports (ligaments, omenta, and mesenteries) of viscera in the peritoneal cavity are the same. They consist of a double layer of peritoneal membrane. These visceral supports are not merely to anchor the organs to the wall of the abdominal cavity, but they convey vessels and nerves for the demand and supply of the organs. They are neurovascular pedicles. Fixation belongs to few abdominal organs. The liberal lengths given to the supports of viscera permit them to perform their rhythmical functions. Every viscus seems to me to have its rhythm. Rhythmical organs require space for their delicate motion, as well as for their contraction and expansion. It may be observed in the abdominal serous cavity that nerves and blood-vessels are systematically grouped, indicating an original division of the digestive tract into its three great regions—stomach, small and large bowels. The supports of the abdominal viscera vary at different times of life, and I have found by careful examinations of fœtuses that scarcely any of the original mesenteric supports exist in the adult; even the mesentery of the descending colon, which I had long thought was the original mesentery, first disappears about the sixth month of fœtal life and rarely appears again, only the sigmoid mesentery represents the original. In the serous cavity of the peritoneum there are two kinds of serous membrane, which may or may not differ in structure and function. One portion of the great sac is intimately in contact with the viscera and is named visceral layer (serosa visceralis). The other portion of the peritoneum is called the parietal layer (serosa parietalis). An important factor in the peritoneum is its subserous strata. The amount of subserous tissue not only varies in thickness, but varies in localities. The peritoneal substratum on the anterior abdominal wall is very small, but the areolar tissue is abundant toward the pelvis and in the dorsal region. It is very important to be familiar with the thick beds of white, snow-like areolar tissue that underlie the serous sac. The practical application of this anatomical fact applies to hernia, the bladder, and the uterus. It is well to observe the fact in operation on the colon and kidney, which organs can be attacked from behind. Many of the organs connected with the peritoneum are sufficiently uncovered to allow surgical procedures from behind. The excessive beds and layers of areolar tissue immediately under the peritoneum endow the peritoneal membrane with wide mobility. The membrane can move easily on its bed, it can pucker and dimple and pouch, by which process it solicits hernial projections. It is probably owing to this yielding bed of areolar tissue that visceral supports elongate (prolapse) with age. I have observed that in all fœtuses and young human subjects the visceral supports are short and the viscera are high in position, but with increasing senility the visceral supports elongate and the organs prolapse. Visceral supports are not for the purpose of preventing hernia through the contained walls, but for the purpose of allowing visceral rhythm and to prevent the organs from becoming entangled. The organs are so anchored that they seldom strangle each other by knots, twisting, or pressure. In the lower animals the digestive canal is very long and convoluted, the peritoneum is more liberal than it is in man, but the visceral supports maintain absolute order among the various organs.

A serous cavity, in general, has an important function in animal life. In viewing it as a joint we compare all movements. It comprehends also all means by which the joint maintains its existence and accomplishes its end. A smooth surface and a lubricating fluid are the essentials for motion. This peritoneal joint, or serous cavity, however, not only accommodates itself to bodily movements, but it adapts itself to functionating contents. It is a depository of changing and moving organs which subserve the object of digestion, gestation and urination, and rhythmical organs. The joint must adapt itself to viscera which have enormous changes in volume. Its walls and contents are in exquisite harmony by being supplied with branches of the same nerve-trunks.

The wisdom of having three serous cavities distinctly divided by strong partitions, though in close proximity, is apparent when one contemplates the spread of inflammatory conflagrations as well as the utility to function and physical protection by confinement. The anatomic and physiologic properties of a serous cavity and its contents present all the known perfections of the most exquisite mechanism. The slimy epithelium of the serous membrane lies on the top of deep beds of snow-white areolar tissue, which possesses properties of elasticity and yieldibility, contraction and expansion, without loss of integrity. The contained organs of the serous cavity possess mobility without dislocation. They have the power to change their form and return to normal without losing their integrity. The organs are endowed with rhythm, elastic and muscular tissue, and varied function. The serous membrane, peritoneum, which lines the walls of the serous cavity and covers the organs evaginated into its fold, in varying degrees, not only facilitates all movements, but it regulates to a certain degree ovulation, digestion, and circulation.

The serous membranes are so named from the appearance of the nature fluid they contain—serum. The peritoneal cavity is always full. No empty space exists in the cavity. Abdominal pressure, which is muscular tension, forces the walls and viscera in intimate contact. Atmospheric pressure aids in excluding any open spaces in the peritoneal cavity. There being no empty spaces in the peritoneal cavity, the pressure inside and outside of a gut will be just the same, and this principle explains why the bowel contents do not flow out more readily into the peritoneal cavity, when a gut-wall is perforated or torn. The peritoneum is so thin that one can scarcely feel four layers between the finger and thumb. It is transparent,

and its endothelia are flat and irregular in outline and studded here and there with stomata, whose mouths are surrounded with a ring of small cubical cells. These little mouths open into sub-adjacent lymphatic channels. The blood-vessels of the peritoneum end in a capillary net-work which especially pervades the subserous tissue. The blood-vessels are much more numerous near parts of the membrane where lymphatic tissue exists.

A CASE OF LUMBAR HERNIA.

By C. M. GALLOWAY, M.D.,

XENIA, O.

W. M. R—— enlisted in the Union Army on August 3, 1862, and was discharged June 9, 1865. He was a sound man physically when he enlisted. A short time after he enlisted, while on a march, his belt, which held in position his cartridge-box, cap-box, and bayonet scabbard, became twisted (because it was made of flanky leather) and caused the shank of his bayonet to rub on his left side, at the exact spot where the hernia

is now located. Soon afterward he began suffering from a severe pain in his spine, from the coccyx to the base of the brain. From that time until the date of his discharge he was able to perform light duty only. When discharged the hernia was about the size of a partridge's egg and has gradually grown to its present dimensions—five inches in length by two inches in width. About twelve years ago incontinence of urine began and is yet present, due to the presence of spinal irritation, the medical examiners say.

During the past year an abdominal hernia over the region of the stomach has made its appearance, for the relief of which he wears a truss. The man has a peculiar nervous symptom, which he states is of recent origin. When walking along the street he will unwillingly turn and walk in the opposite direction, and continue until he grasps some stationary object, and stop himself, when he can turn around and continue his walk in the original direction. At such times he feels strange, but has no unusual pain. The lumbar tumor requires now a pad five inches in diameter to hold it in place. The patient is much emaciated and weighs one hundred and twenty pounds. The accompanying illustration shows location and size of the hernia.

THE USE OF THE BICYCLE FROM A PROFESSIONAL STANDPOINT.

By JOHN B. RICHARDSON, M.D.,

LOUISVILLE, KY.

AFTER employing a horse and buggy, in the practice of my profession, over the streets of our city for more than twenty-two years, I found I was not getting sufficient physical exercise to prevent frequent attacks of headache and sleeplessness, and was becoming quite too corpulent for comfort. I determined to give them up and try walking. I very soon regained perfect health, but was convinced walking was too slow for long-distance visits. The use of the bicycle was the alternative, which, at that time—nearly four years ago—was considered here a great innovation, deemed, to say the least, a rather undignified or puerile species of locomotion, entirely devoid of practical utility, and its employment requiring a more than minimum degree of temerity, especially in a professional man. Possibly I was a little advanced in years to adopt such a novelty, as I had then nearly reached the shady side of the half-century mark. Nothing daunted, I strode my Pegasus, and found him, at first, rather unruly and difficult to manage, almost equalling "in ways that are dark" and unexpected positions and locations the proverbial mule, when first saddled and bridled.

After, however, a few four-A.M. (to escape observation and unfavorable criticisms) excursions over asphalt pavements, I mastered the wonderful steed, and now feel as much at ease on his back as when seated in my easy-chair in my study.

There are some rules by which riders should be governed, and in accordance with which they should act, if they wish to derive all the benefits and not fall heirs to any of the evil results of "cycling."

A perfectly fitted saddle and the proper position of the saddle stand first, being of major importance.

When seated upon the saddle, placed at the proper angle for the rider, his weight should rest upon the gluteal muscles (except what is impinging upon the pedals), and under no circumstances or at any time should any weight or pressure be permitted to fall upon the perineum, for just this and this alone (excepting falls from the machine) is the cause of most all of the cases of irritation and inflammation of the neck of the bladder, of the urethra and prostate gland, and abscesses which result from bicycle-riding. My advice to dealers in bicycles is, never allow the use of an ill-fitted saddle; do not weary of making changes in the saddles, or altering the angles at which they are placed and secured, until their proper adaptation has been perfectly accomplished, for in this lies the secret as to whether or not the use of the bicycle shall result in benefit or harm to the rider.

Where there is already existing disease of the genito-urinary organs, or local irritation from any cause, the use of the bicycle is contra-indicated. Given, however, a perfectly sound person in this regard, its use within reasonable bounds will redound to his benefit and not to his injury.

The most natural, healthful, and graceful position for horseback-riding is the erect posture, with the stirrup-straps of such length as will allow the rider's legs to be almost fully extended, permitting him to bear most of his weight upon the balls of his feet on the stirrups. So, after one has learned to ride the bicycle, the saddle should be so elevated that, the rider's leg being ex-

tended, the down pedal will be sufficiently low to enable him to touch it easily with the heel of his boot, thus keeping most of his weight upon his feet, and lessening the proportion of weight upon his gluteal muscles.

The rider's body being perfectly poised in the erect posture places his lungs and heart in their best possible relative position to carry on their functions, and not impede the circulation through the heart and vessels, and by pressure of contiguous parts preventing the free expansion and contraction of the air-cells, as is unavoidably done in the leaning-forward position, the latter being unnatural, ungraceful, and unphysiological, as well as invariably injurious.

A safe rule, to which there can be no exception in the use of the bicycle, and which with equal force is applicable to all other forms of exercise, is: Exercise short of fatigue. This observed, one will obviate the necessity for the obedience of a second, viz.: Rest frequently.

Excessive exercise here, as along every other line, is injurious, and is to be eschewed. With greater force does this apply to the young, growing, or physically undeveloped rider. Even in hill-climbing or rapid riding the erect posture should be assumed and maintained.

Most professional riders insist that the forward-leaning, partially-closed-"Jack-knife" position is essential to rapid riding, and many youthful riders assume it, as it smacks of the professional, to their temporary and at times permanent injury. If this be true, it cannot apply to health-seeking or pleasure-riding. Again, the assumption and retention of this position is a frequent cause of perineal troubles, bringing to bear a great amount of pressure upon those parts which should never be pressed upon, and which even the most perfectly fitted saddle cannot, in that position, be made to prevent.

Racing, either competitive or against time, is generally injurious, unless the rider has been gradually brought to that degree of muscular development through months of careful training. Riding long distances at a rapid rate of speed can only eventuate in harm, resulting in hypertrophy of the heart and its consequent dilatation, or overstraining of other muscles or sets of muscles. Gentle exercise upon the bicycle in every healthy person, after becoming inured to its use, produces a wonderful exuberance of spirit, which if not checked will create the desire to "speed." This can be controlled if taken in the initial, but will grow upon the rider if he is not continually on the *qui vive* to hold it in check, and should not be indulged in by the health-seeker or the young. The subject of respiring during the use of the bicycle is one of importance. My experience in hill-climbing, or in rapid riding on the level even, is that one is forced to use mouth-breathing; but in riding on the level it is better to breathe through the nose, especially in cold weather, for it is a well-known fact that atmospherical air, after passing through the nostrils, upon reaching the air-cells of the lungs is some degrees warmer than when it passes through the mouth upon reaching the same point. Bicycle-riding causes free lung-expansion, thus dilating air-cells which during the more common forms of exercise remain quiescent, partially collapsed, and unemployed, their distention keeping them in a physiological condition causing their healthy action, and retaining them in that state in which it is most desirable to have them in both health and sickness.

Bicycling develops the general muscular system, and is not confined, as some suppose, to the muscles of the lower extremities. This will be corroborated by all wheelmen. Those of the back, chest, neck, abdomen, and also of the upper extremities are brought into constant use in the earlier essays at riding, in getting on and off, and in balancing and guiding the wheel. All of these sets of muscles are constantly employed in hill-climbing, and can be exercised by the expert rider when he so desires, even if it be not essential on a level road.

Use but do not abuse the use of the bicycle. I am persuaded by experience and observation that ill results are generally attributable to carelessness in some one or more respects, to overuse, or to too long or too rapid jauntings; for there is no form of exercise more vivifying, exhilarating, or health-giving than excursions leisurely made, with agreeable companions, in pleasant weather, over the hills and dales of our own God-blessed "Blue-grass Country."

A very wise and observant old Friend—a layman—remarked to me many years since: "Antidote for indigestion, eat less. For nervousness, exercise in the open air and sunshine." His conclusions were axiomatic.

I have prescribed for many sufferers from the above-mentioned ills the use of the bicycle, and have lost them as patients, the benefit in some instances being immediate, as well as in some chronic cases of headache, constipation, etc.

As a vehicle of convenience one has only to employ it for a short time to appreciate it.

It requires no great physical effort to traverse a mile over level, smooth pavements in from six to eight minutes, and this rate is not wearisome.

I have on a number of occasions arisen at midnight, dressed, and ridden on my wheel to a patient's residence, and arrived there before the messenger did. It is not only a time-saver, but a saver of suffering ofttimes; always ready, night and day; requires no feeding or grooming; is never sick unless its rider is, and soon becomes to its owner a thing of beauty, for which he forms a true attachment.

Where one has any local disease, and is in doubt as to the advisability of his using a bicycle, he should consult his medical adviser prior to deciding.

I have found marked benefit accrue from its employment, it being a provoker to exercise, in those who are disinclined in that direction, as after learning to manage it with ease the necessary physical labor requisite to run it is so slight that many enjoy it who are too indolent to walk or ride horseback. It is a very rapid form of transit, and gives one change of scenery he may have never before known.

I have seen consumptives well progressed in their disease benefited by its gentle and prudent use; their appetites increased, digestive and assimilative powers enhanced, their sleep prolonged and made more refreshing. Its use is an excellent and effective promoter of the skin's action, stimulating the sweat-glands to gentle but emphasized activity. On the latter account riders cannot use too great care against the catching of colds.

In many diseased conditions this activity of the sweat-glands is greatly to be desired, and can be taken advantage of by the physician. The mere suggestion is only necessary.

Where the building-up process is a desideratum, and no contra-indication obtains, gentle exercise on the bicycle will be found of great benefit. It is far preferable to the exhibition of medicaments whose object is to stimulate and tone up the action of the heart, stomach, lungs, skin, and intestinal canal. It gives more of God's medicine (oxygen, sunlight, physical and mental exercise and diversion, self-forgetfulness, etc.) and requires less of the doctor's. To sum up: Rapid riding, or riding long distances at a rapid rate, is injurious in many ways to every rider, unless gradual and careful training has been gone through with that object. Gentle and moderate bicycle-riding increases vitality; improves and enlarges lung and breathing capacity; develops the muscular (general) as well as special systems or sets, as also the heart's power; increases appetite and powers of digestion and assimilation, thereby adding to capacity for life and increased longevity; stimulates action of skin, and thereby elimi-

nates more rapidly and perfectly effete materials from the system, thus aiding the kidneys when they are temporarily unable to perform their functions perfectly, or are organically diseased; is an excellent means for mental and physical diversion; causes many indolent persons and those who lead sedentary lives to exercise more freely, being pleasurable and easy to take after mastering the machine; is one of our best simple measures in the treatment of cases of insomnia, and, last but not least, is an agent in the moral culture of individuals in pleasurably diverting their minds and meeting their demands for occupation, thus answering the place of saloons, beer-gardens, and other similar places, where companionship is sought.

CASE REPORT OF FIBROID TUMOR OF THE UTERUS WITH SUPPURATING OVARY DISCHARGING PER RECTUM.[1]

By RUFUS B. HALL, M.D.,

CINCINNATI, O.,

PROFESSOR OF CLINICAL GYNECOLOGY AT THE MIAMI MEDICAL COLLEGE; GYNECOLOGIST AT THE PRESBYTERIAN HOSPITAL; FELLOW OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS; OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION, AND THE BRITISH GYNECOLOGICAL ASSOCIATION.

MR. PRESIDENT AND GENTLEMEN: The subject of operative treatment for fibroid tumors of the uterus is one in which the keenest interest is manifested by men engaged in abdominal surgery. The main points in the technique of the operation have been practically settled, but certain minor details in operative procedure are capable of improvement. The greatest difficulty is to successfully overcome certain complications and obstacles occasionally arising, which tax to the utmost the skill of the operator.

The following case, which I shall report somewhat in detail, illustrates a number of these complications, and will serve as a basis for a few remarks to be made later.

Mrs. J. W——, aged forty-four, married sixteen years, mother of five children, the youngest six years of age, was referred by Dr. Heady, of Glendale, O. She always enjoyed good health until about five years ago, at which time she observed that the menstrual period was prolonged and somewhat excessive. As time passed on she noticed that this symptom grew worse, and within a year or two was added pain in the back and a heavy bearing-down sensation in the pelvis during and for a few days following the menstrual period. She did not apply to a physician for relief, however, until some time in February of the present year, when the diagnosis of fibroid tumor of the uterus was made, and the usual treatment followed by the general practitioner suggested. This had little effect, either for relief of the hemorrhage or of the pain, which had become quite severe, especially in the right side of the pelvis and abdomen.

She gradually grew worse until the latter part of April, when she was confined to bed with an attack of general peritonitis. She was very ill and had a high temperature and rapid pulse for two weeks. She then had a discharge of several ounces of pus per rectum, which relieved her somewhat of the pain, and the temperature dropped for a few days. Her general symptoms were not at all improved, but were really aggravated. The temperature chart and her general condition showed her to be suffering from sepsis. There were soon added diarrhœa, chills, and sweats. In the course of eight or ten days she again had a discharge of several ounces of pus per rectum, and was again temporarily relieved. This periodical discharge of bad-smelling pus continued at irregular intervals up to the time she entered the Presbyterian Hospital in my service, June 2, 1894, when the case was first seen by me.

The patient was fairly well nourished; pulse, 140; temperature, 103. She was unable to walk or sit up, and had to be carried into the institution. She was having diarrhœa, irregular chills, and profuse sweats, which she said had been of almost daily occurrence since the abscess first discharged. There were intervals of eight or ten days in which there was no discharge of pus; the diarrhœa and sweats were always worse at that time. The patient said there had been no discharge for more than a week before she entered the hospital, and expressed a wish that it would soon discharge again so that she might have relief.

Examination revealed a hard round tumor in the abdomen, apparently the size of a cocoanut, extending some four or five inches above the symphisis pubis, and slightly to the left side. By combined examination, this tumor was diagnosed as the fibroid uterus. Behind and to the right of the tumor, filling up the pelvic cavity and projecting well toward the perineum, was an elastic tumor somewhat larger than the fibroid just described. This latter I believed to be a suppurating ovary, and from the clinical history had every reason to believe there was a communication with the bowel through which it emptied out a small part of its fluid contents.

The patient was in such a wretched condition to be subjected to a section that an operation seemed to promise but very little. Her friends and physician, who had assumed charge of the case but a day or two before she entered the hospital, were very anxious for the operation, knowing full well that without it she had absolutely no chance for recovery. She was able to take but little nourishment, and that of the blandest character, owing to the irritability of the stomach.

On June 6th the operation was made and the tumor removed. I here present it for your inspection, as it will aid very materially in the explanations to follow. You will observe that the solid part of this tumor is the fibroid uterus, including the neck and cervix. As is my custom in these cases, I made total extirpation. At the side of this tumor there is a sac which represents the suppurating ovary; it is densely adherent to the fibroid uterus. You will see on the lower part of the sac an irregular opening through which you can introduce the thumb. This is the site of communication with the bowel, and will be described later. The opening into the sac near the fundus of the uterus is the point of rupture of the sac during extirpation, after the occurrence of which it was hastily torn open so as to facilitate washing it out before enucleation. The fibroid tumor rode up out of the pelvis proper and rested upon the sac of the suppurating ovary, which practically filled the pelvic cavity and was universally adherent. The omentum and intestine were adherent over the top of the tumor, closing in every portion of it, as you will observe upon careful examination of the specimen. The adhesions were overcome with considerable difficulty. They were all separated down to near the point of attachment to the bowel at the point of communication. When we neared that point, we separated as much as possible of the capsule of the suppurating ovary around the opening, leaving several tags of the capsule attached to the bowel, hoping that thus we might separate the sac from the bowel without making a communication with it, there having been no discharge of pus from the bowel for ten or eleven days. In this, however, we were disappointed, for when we had enucleated the sac, we could pass two fingers into a rent in the bowel, which proved to be the rectum just below the promontory of the sacrum. A resection or Murphy button was out of the question. The opening was immediately plugged with gauze and the operation of total extirpation proceeded with.

When we had completed total extirpation, we could say with all candor that nothing in the pelvis remained

[1] A paper read at the Southern Surgical and Gynecological Association, Charleston, S. C., November 13, 14, and 15, 1894.

which had the least resemblance to peritoneum. For that reason no attempt was made to close the vagina from the peritoneal cavity with stitches, as is my custom, but the vagina was packed with gauze and our attention turned to the repair of the hole in the rectum. This opening crossed the rectum diagonally, and by experimenting we found we could bring the edges together without materially lessening the calibre of the rectum. With a fine suture of catgut, a running stitch was made of the mucous membrane only. After this the muscular coat was brought together with interrupted silk sutures, and on top of this, one of the tags which had been peeled from the outside of the cyst wall, and which was still adherent to the bowel near the opening, was turned over the row of stitches and united around its free margin with twelve or fifteen interrupted silk sutures. The cavity was thoroughly irrigated, the pelvis packed with gauze, and the wound closed. Before the patient was put to bed, the sphincter ani muscle was thoroughly dilated.

The operation consumed one hour and five minutes time. The patient was put to bed in profound collapse, but she rallied within a few hours and appeared to be none the worse for the severe ordeal through which she had passed. The gauze in the pelvis was removed through the abdominal incision on the fourth day, and the pelvic cavity washed out with peroxide of hydrogen, there being a free outlet through the vagina. This washing out process was repeated every four to six hours for ten or twelve days. There was never the least indication of leakage through the bowel injury.

For nearly three weeks the high temperature, rapid pulse, and sweats continued, though not so severe as before the operation. At the end of that time her temperature became normal and she improved rapidly. She left the hospital the middle of the fifth week, thoroughly convalescent, and is now perfectly well.

There are a number of questions of operative procedure suggested by this case, to which I wish to direct attention. Whether or not to advise an operation upon a patient suffering from prolonged and profound sepsis, during the attack, or wait with the hope of putting the patient in a better physical condition, is a question that must be decided on the merits of each individual case. It is a question that admits of discussion both pro and con. There are good grounds for basing an argument on either side, but there are cases where there is nothing left to do that promises any chance of saving life except the radical operation.

The technique of the operation for fibroid tumor associated with a large suppurating ovary, is an interesting study. If with extensive raw surfaces in the pelvic cavity which have been thoroughly bathed in pus during the operation, and no peritoneum to close off these raw surfaces from the general peritoneal cavity, we use the Baer method, which does not give thorough drainage, I do not believe we will have such satisfactory results. I think total extirpation of the cervix, leaving free communication into the vagina for subsequent drainage, gives the ideal condition, both theoretically and practically, for after-treatment in this class of cases. I can unhesitatingly recommend it.

The separation of the firm adhesions of the bowel in the pelvic cavity should be done with the utmost care, for even then a bowel injury is not uncommon. In cases where there has existed communication for several weeks or months, we necessarily have a bowel rent in a very unsatisfactory condition for repair. If there is no peritoneum to be recognized as such for some inches from the injury, and a resection or Murphy button is out of the question, the strengthening of the suture line with a tag of adventitious tissue, as described in the operation, is very desirable. It is a method I have employed on several occasions with perfect results.

Packing the pelvic cavity with gauze, thus keeping the healthy intestine away from the raw surfaces in the pelvis, and protecting the general peritoneal cavity from intestinal leakage, if any should occur, preventing intestinal adhesions there, is a step in advance in the treatment of these cases and one to be commended. It cannot be fully appreciated by those who have not employed it. I usually remove the gauze in the pelvis on the fourth day and wash out the cavity with peroxide of hydrogen, repeating this washing out four or five times daily as long as necessary.

Again, forcible dilatation of the sphincter ani muscle before putting the patient to bed, adds greatly to the chances for recovery. It causes incontinence, thus relieving the intra-intestinal pressure from accumulating gases. All of us who have had experience in abdominal work, know that the sphincter muscle in these cases contracts to such a marked degree that the large bowel frequently becomes enormously distended with gas; and if there is a rent, it puts undue pressure on the weak point, thus favoring intestinal leakage into the peritoneal cavity. So far as I know, I was the first man to practise forcible dilatation for this purpose. The first time I employed it was February 6, 1893, in a case of extensive bowel injury, in a patient operated upon for extra-uterine pregnancy. The patient recovered.

CONTREXEVILLE.

By DEBOUT D'ESTRÉES, M.D.,

PARIS, FRANCE.

A KNOWLEDGE of the virtues of Contrexeville, the springs of which were till then only visited by the inhabitants of the neighboring villages, dates from the lecture read before the Société des Sciences et Arts of Nancy, January 10, 1760, by Dr. Bagard, first physician to King Stanislas, of Lorraine, to whom we are indebted for the following passage:

"The mineral waters of Contrexeville are a sovereign remedy in diseases of the kidneys, of the ureter, of the bladder, and the urethra, stone, gravel, glaires, suppuration. We can assert that these waters are efficacious against the stone, which they loosen and drive out of the bladder, when the stone is not of a considerable size; that they dissolve and break larger stones when the latter are chalky. We keep a list of patients of all ages who during several years have got rid of stones through the effect of these waters. They prevent fresh attacks of gout, by restoring the suppleness of the nerves and of the membranous parts which the disease has dried up. As these waters contain ferruginous matter, a mineral acid, and soap, they will be very useful in cases where the bile becomes too thick and where the liver is obstructed, the more so as these waters are purgative."

This quotation gives, in the medical style of the period, a very exact idea of the properties of the waters of Contrexeville, which it exaggerates in nothing. And from this time foreign invalids began to make use of them.

Many very celebrated cures are still authentic, and among others that of the Abbé de Bouville, who, after having been three times operated on for stone found relief for his pains at this spring, and was enabled to finish his career, which was prolonged for many years, without again having to undergo an operation.

Effects quite as remarkable, observed in the persons of many noblemen of Lorraine and its environs, began to make a great reputation for the waters.

From 1775 to 1789, thanks to the renown and merit of Thouvenel, physician to the Court at Versailles, who was loud in the praise of the waters, the village of Contrexeville saw princes and gentlemen thronging to its establishment. These personages, in their moments of leisure, amused themselves playing tragedies and comedies in the pretty little theatre built by the Prince d'Hennin at his own expense.

The English visitors at Contrexeville built, in the year 1783, a mansion known as the "Château des Anglais," which is now only inhabited by some of the poor workmen of the place.

One can easily understand, after what I have just said, the terrible shock the Revolution of 1789 must have been to the fortunes of Contrexeville, which the minister Necker wanted to buy for the state. Emigration deprived the village of the yearly presence of its noble visitors, and as long as the troubles of the Revolution lasted the station was almost deserted.

At the time of the Restoration a late surgeon of the Imperial army, Mamelet, came and settled at Contrexeville to practise medicine. He had occasion to meet there Dr. Thouvenel, who made known to him the properties of the spring of mineral waters. In 1825 Mamelet, who had conscientiously studied the effects of these waters, published a work, which made such a sensation that from that time forward they took an important place in therapeutics. M. le Dr. Civiale, wrote, in 1828: "It seems evident to me that these waters possess the property of strongly exciting the urinary organs, and that this property renders them useful for determining the expulsion of large gravel, at the same time that they lead to a surer diagnosis of stone in the bladder, a question which is of more importance than one thinks."

Between 1825 and 1844 Mamelet published a second, and then a third edition of his work. Nevertheless, the affluence, so considerable to-day, was slow to establish itself at Contrexeville, in spite of the incontestable merits of this station.

M. le Dr. Peshier, member of the Academy of Medicine of Paris, in his report on Mineral Waters (March, 1853), thus explains the reasons of this: "While our numerous thermal establishments, so various, but all animated with a desire to make a noise in the world, sounded their own praises in advertisements as well as by the results of study and scientific discussion, Contrexeville alone, scarcely drawn out of its obscurity by the conscientious, though not well-known works of Bagård and of Thouvenel, waited in silence for the gratitude of its clients to lead medical opinion to determine its precise value. Innocent of all surprise of stimulating general opinion, disdaining a precocious discovery which might end in myth, this bountiful spring, by the simple fact of the multiplicity and the constancy of the cures, which were made known all over the world, arrived at such a point of notoriety that its name is not less identified with the idea of gravel than that of sulphate of quinine is with the idea of intermittent fever. This justice is rendered to it everywhere and without contest."

Contrexeville is situated in the Vosges, in a valley open from south to north. One meets in every part of this valley, at a depth of about three yards, a layer of green clay about a yard thick, through which the spring "Pavillon" has made its passage.

The cistern for arresting the water which penetrates this green clay isolates the spring from rain-water, which circulates in the calcareous beds above this layer of clay, and thus permits the water to arrive free of any admixture to the surface.

Source du Pavillon.—This water is cold and limpid; its temperature is invariably 11.5° Centigrade. Its specific gravity does not exceed 1.025. It has a slight ferruginous taste and is very refreshing. It produces scarcely any effect on litmus paper, but it gives a greenish color to sirup of violets. When exposed to the open air, it is soon covered with an iridescent film, which disappears when the water is shaken. The stone reservoir into which it falls, the pipes through which it passes, whatever is thrown into it, are rapidly covered with a yellowish coating resembling rust, which is composed of carbonate of iron mixed with carbonate of lime.

The principal minerals the water contains are, according to the analysis made in 1864 by M. Debray, sulphates of lime and of magnesia, bicarbonates of lime and of magnesia, of iron and of lithium, to which we must add traces of fluoride and of arsenic.

It is, therefore, above all, a water having a foundation of lime with lithium, to which iron and arsenic add their reconstituting qualities, so precious for our anæmic generation. This spring is also slightly laxative. These properties render it useful for patients whose sluggish intestines have to be stimulated.

Manner of Employing the Waters.—It is evidently to the ingestion of the water that the good results obtained at Contrexeville are due. Taken fasting, a glass at a time at intervals of ten, fifteen, twenty, or thirty minutes, it produces on the human economy effects which we shall describe further on. It is, to quote Dr. Patissier, "so friendly to the stomach" that it can be taken in relatively large doses. These doses must, nevertheless, be regulated by a medical man, according to the age, the sex, and the disease of the drinker.

A robust man suffering from gravel, a debilitated gouty patient, a woman suffering from hepatic colic, an old man suffering from catarrh of the bladder, would each require a different and special treatment.

In most cases the results obtained by treatment at the spring itself, are confirmed by the use of the water at home. Its effects, inferior to those at the spring, are, nevertheless, easy to prove by those who have used them, especially in cases of chronic affection of the bladder.

It is important, however, that the water should be drunk, as a rule, fasting or during the intervals between meals. Finally, although we have known a case where satisfactory results were obtained with water which had been bottled for seven years, we recommend patients to procure for themselves the water, as fresh as possible, by applying either to the establishment at Contrexeville, Vosges, or to any mineral-water dealer in the United States.

Physiological Effects.—The waters of Contrexeville stimulate all the secretions, but they especially help that of urine. In the digestive organs this stimulation is at once observed to act upon the stomach by increasing the appetite and regulating the functions of the digestive organs. This is especially remarkable in patients suffering from those dyspeptic ailments, which so often precede the appearance of the uric acid diathesis.

The waters are also observed to act on the intestines by producing a laxative effect, shown by two or three liquid stools, which does not in any way fatigue the patient.

In the circulatory system the stimulation of the waters often causes a kind of inebriation of the patient, which always disappears after the first meal. The functions of the skin are restored by the influence of the hydro-mineral treatment when they have been suppressed. According to Dr. Baud, the genital organs of men are also stimulated by the use of the waters of the Pavillon. On women suffering from gout or gravel, it tends to the regulation of the menses, and thus has rendered fruitful gouty women who until then had been barren.

But it is upon the urinary system that the principal physiological effects are produced by the waters of Contrexeville. They produce considerable diuresis, and the quantity of liquid voided is always greater than the amount of water which has been absorbed. They modify the mucous membrane of the urinary tract, and the remarkable results in catarrh of the bladder are due to this effect. They stimulate atony of the bladder. They drive away the pains caused by gravel in the kidneys, as can be seen every day at the spring of the Pavillon, and they expel the excess of uric acid from the system. Finally, they often reveal the presence of large calculi, unsuspected till then, and the size of which will not permit them to pass through the natural channels.

The diseases treated at Contrexeville, are, in the order of their frequency, as follows: Gravel, gout, diseases of the bladder and of the prostate, diabetes, and hepatic colic.

Gravel.—The effects obtained at Contrexeville in cases of gravel are too universally known for it to be necessary for me to dwell long on this subject; the brilliant results which caused it to be said that Contrexeville was for gravel what sulphate of quinine was for intermittent fever, would be still more remarkable if all the gravel patients would keep the health rules so strongly recommended to them when they leave Contrexeville.

Unfortunately, a great number of them break out into excess by either indulging in a too rich diet or by leading a too sedentary or too busy life, and the same causes bring back the same effects, and they are obliged to come to the spring of the Pavillon to be able to indulge again in excesses.

This applies specially to uric acid gravel (red gravel). M. Durand-Fardel, inspector of the springs of Hauterive at Vichy, whose works on mineral waters and on chronic diseases have a legitimate authority, classes, in the following manner, the use of the waters of Contrexeville, for this kind of gravel:

"In cases of renal pains, when the reappearance of nephritic colic is to be feared, or in less simple cases where continual pain or turbid urine reveals a certain degree of inflammation or of catarrh in the region of the kidneys, the waters of Contrexeville—imported if necessary, but especially to be taken on the spot—are clearly indicated.

Bicarbonated and strong mineral waters, especially those of Vichy, are, on the contrary, to be avoided in such cases. We must insist upon this point, which is not sufficiently known to the majority of medical practitioners."[1]

In cases of phosphatic gravel (white gravel) nothing has given results to be compared to those obtained at Contrexeville.

The urine of patients suffering from this affection is either strongly alkaline or less acid than normal urine, and the patients see for themselves this phenomenon, at least surprising, that under the influence of the use of the water, slightly alkaline, of the spring of the Pavillon, their urine becomes more or less acid.

This is simply caused by the fact that the inflammation of their urinary channels disappears under the treatment, and the urine is restored little by little to its normal condition.

When gravel exists it is often passed out in small pieces, for this is far from having the consistency of uric acid gravel.

Gout, and more particularly atonic gout, is one of the affections which is most benefited by these waters. If anyone doubted the consanguinity of gravel and of gout, a season at Contrexeville would very soon undeceive him. It is, above all, a place for gouty patients suffering from gravel, and of patients with gravel suffering from gout.

Under the influence of the treatment the attacks of gout first become less acute and frequent, and then completely disappear, coming back again when the patient forgets the laws of hygiene.

Some of our patients, whose detailed history would be too long to give here, have not had attacks for six, eight, and even twelve years, when beforehand they had one or more attacks every year, either articular or visceral, for these manifestations of the disease are particularly benefited by Contrexeville.

"The waters of Contrexeville are often very useful in chronic gout. We have used them several times in cases of gout of long standing and we have found the results very beneficial."

Dr. Potton, himself a sufferer from gout, and fighting, as he says, "pro domo sua," has published[1] a series of papers comparing the use of some of the mineral waters in gout; and speaking of visceral gout, he says that in these cases he chooses the calcareous magnesian waters of Contrexeville, as being preferable to all other remedies. "I do not know," adds the author, "a surer means for regulating the functions in this kind of gout."

Vesical Catarrh, though sometimes met with in young men, is essentially a disease of old men, in whom the voluminous prostate and the uncontractable bladder occasion the stagnation of the urine, and its decomposition before its emission.

There is, perhaps, no disease against which so many medicines have been directed as against vesical catarrh.

At Contrexeville, after patients have drunk the water for a few days, the urine, which had been cloudy, thick, ropy, became clear, its mucous deposit diminishes, it emits a less disagreeable odor, the inclination to make water, which had formerly wakened the patient seven or eight times during the night, disturbs his sleep but once or twice; the feeling of heaviness in the abdomen passes off; micturition becomes easier, and the patients are delighted to see with what force they expel their urine. This improvement goes on increasing day by day, and ends in a definite cure after a season or two.

"The effects of the mineral waters of Contrexeville," says Dr. Civiale, "consist especially in restoring the vesical contractility, which is always weakened in this disease. Many of my patients, affected at the same time with atony and catarrh, whom I advised to try the waters of Contrexeville, obtained such good results from them that they returned there of their own accord."

Hepatic Colic.—The waters of Contrexeville have given equally remarkable results in cases of hepatic colic, particularly in debilitated patients. The laxative effect produced by the ingestion of the waters renders the indication precise in the case of hepatic patients whose intestinal functions are hindered. The Contrexeville waters possessing tonic qualities, are of great utility in the case of patients who have been debilitated by numerous crises.

Diabetes.—Our personal experience confirms in all points the results which were described by Dr. Bronguiart, in 1876, in a lecture on the treatment of gouty diabetes, at Contrexeville. A number of gouty patients are attacked with diabetes and many of them are aware of it only when the disease has become serious enough to render the cure problematical.

Among the cases we have observed we will mention two patients whose urine contained respectively one hundred and one hundred and twenty grammes of glucose to the litre. We saw this rapidly disappear under the influence of the treatment and without any special alimentary *régime*. In one of the cases the sugar reappeared the following year, the other we never saw again. But many other examples of gouty diabetes, with moderate quantities of sugar, have been followed by us, and the treatment always very happily modified the constitution.

When patients who had escaped our observation in the intervals of treatment came back to Contrexeville, the glucose, if it still persisted, was always to be found in much smaller quantities than the preceding year.

Among other affections which are benefited by the waters of Contrexeville we must mention dyspepsia, diseases of the prostate, chronic urethritis, spermatorrhœa, and uterine catarrh.

The Third Mexican Medical Congress will be held in Guadalajara in 1896, under the presidency of Dr. Rafael Lavista.

[1] Durand-Fardel: Traité pratique des maladies chroniques. Paris, Asselin, 1868, vol. i., p. 145.

[1] Lyon Médical, June, July, and August, 1869.

Clinical Department.

A CASE OF CROUP TREATED BY ANTITOXIN.

By FORBES R. McCREERY, M.D.,

NEW YORK.

THE question of the value of antitoxin is one of such great importance that I feel it desirable that even such individual cases as the following should be reported. It, of course, as will be seen, proves nothing for or against the remedy. Nevertheless, it is of interest, the more so as nearly all the reports heretofore published have been of hospital cases.

The patient, a child aged twenty-two months, was taken ill on the morning of December 2d. The symptoms first noticed were hoarseness, cough, and slight difficulty in breathing. These symptoms became gradually more marked. They were worse at night, but persisted throughout the day of the 3d. I first saw the child December 4th, about 10.30 A. M. There was no membrane visible in the throat, but the signs of laryngeal stenosis were well marked, though not extreme. The character of the voice and cough, the marked stenosis, and the history of the case, all pointed to the diagnosis of a membranous and presumably diphtheritic croup. That evening the stenosis was more marked, and I feared that intubation would be necessary before morning. I concluded, however, to try first the effect of antitoxin, and accordingly procured some from the Pasteur Institute and injected 13 c.c. The rectal temperature at the time was 101° F. The following morning I found the child free from laryngeal stenosis, but with a temperature of 102° F. I learned that the dyspnœa had begun to diminish within two hours after the injection. I injected about 6 c.c. more of the serum. That evening the child was still free from symptoms of stenosis and the temperature had risen to 105° F. I was informed that the child had been apparently delirious during the afternoon. The bronchi were full of coarse râles, and I thought I detected a patch of pneumonia. The child was given a tepid bath and an aconite mixture ordered. The next morning the temperature had fallen to 102° F. No pneumonia could be made out, and there was no stenosis. That day I received a report from the Board of Health stating that no diphtheria bacilli had been found in culture made from the pharynx; two subsequent examinations failed to reveal any. The child convalesced rapidly, without further symptoms than those of a moderate bronchitis. I may add that she had suffered from a severe bronchitis last spring.

Apart from the injection, the child was treated from the morning of the 4th by calomel fumigations and strychnia and iron internally.

I think this case is an example of a class often met with. I mean a class of cases in which all the symptoms indicate a membranous, and, therefore, probably a diphtheritic, laryngitis, but in which no membrane is visible, and in which no diphtheria bacilli are found in cultures. These cases, in my experience, are always serious, often require intubation, and are often fatal. It is safer always to assume that they are diphtheritic and to treat them accordingly.

In conclusion, I would repeat that the case proves nothing for or against the remedy. Nevertheless, the rapid disappearance of the stenosis seemed to have been due, in part at least, to the injection of antitoxin. In like manner, the sudden rise of temperature, and the delirium, may have been caused thereby.

129 EAST FORTIETH STREET.

Dr. Paris died recently at the age of ninety-three. He was formerly physician in ordinary to Louis Philippe.

POISONING BY POTASSIUM CHLORATE.

By THEODORE POTTER, M.D.,

INDIANAPOLIS, IND.

AT the meeting of the Marion County Medical Society, October 2, 1894, four cases of potassium-chlorate poisoning were reported by Drs. J. T. McShane, S. P. Sherer, Florence Hays, and myself. Two of these were fatal. The reports in brief may be found in the minutes of the meeting as published in the Indiana *Medical Journal* for November. The case which came under the writer's observation was as follows:

On June 21, 1894, I was called to see Mr. T——, aged forty-seven, who was said to be suffering from painful bowel disturbances. He had been taken ill twelve hours before. He had vomited once or twice, and at the time of my visit complained chiefly of pain over the epigastric region and over the lower abdomen, with diarrhœa, which was assuming a dysenteric character. There was some rectal tenesmus, with the passage of small quantities of mucus and blood with the stools. Temperature 102° F., pulse 108 and weak. The bowels were ordered washed out, and bismuth and small doses of chlorodyne given.

On June 22d the morning temperature was 104.4° F.; evening temperature, 104° F., having been modified by small doses of acetanilid. On the 23d the temperature was 103° F. The fact that the patient did not pass much urine, and that there was some dysuria, was supposed to be sufficiently explained by the cholera-morbus-like attack of bowel trouble.

On the 23d, in spite of amelioration of the bowel disturbance, the other symptoms were no better, but in some respects worse. The patient complained at times of being cold; his feet were cold; fingers, nose, and cheeks cyanotic; he repeatedly broke into profuse sweat. The urine was scanty and there was considerable dysuria; rectal tenesmus moderate, with passage of some mucus and blood. The abdomen was very tender below the umbilicus and in the epigastric region. Weakness and prostration were out of proportion to the bowel disorder.

My attention was now called to the fact that the urine and the fæces were both black. The latter, it was thought, might be due to the bismuth taken, though the color was of an inky character, which, together with the black urine, aroused my suspicion. Inquiry was at once made in regard to the use of carbolic acid or potassium chlorate.

The patient stated that on the 18th, having a slight sore throat, he had bought two cents' worth of the latter drug, getting about two teaspoonfuls. This quantity he had eaten on the 18th and 19th. The poisonous effects showed themselves during the night of the 20th. The diagnosis of potassium-chlorate poisoning was now made.

The bowels were flushed repeatedly with hot water; large hot poultices placed over abdomen and back. He was ordered hot sitz-bath, castor-oil was given, and he was directed to drink large quantities of weak flax-seed tea. Small doses of Dover's powder were also given.

On the 25th the morning temperature was 101.5° F. There was dribbling of urine, and examination showed retention; urine still very dark, though not black. In the evening the catheter drew about twenty ounces of better-looking urine. The stool resulting from the castor-oil was more natural in appearance, but subsequently and for a week the fæces were almost black, though the bismuth had been discontinued.

The treatment was continued as above, except the poultice to the back. The diet was milk, soup, broth, and fresh beef-juice. At times watermelon-seed tea was substituted for that made from flax-seed. The catheter was used twice daily till July 2d, the character of the urine in the meantime improving.

The patient had for several years shown some signs

of slight prostatic hypertrophy, the suspicion being now confirmed by rectal examination. The long-continued dysuria and necessity for the catheter were, I think, in large measure due to the increase of this former trouble. From June 30th to July 9th the bladder was daily washed, at first with boracic solution, later with bichloride of mercury, 1 to 16,000. On July 9th the pain in the renal regions, both sides, increased and became severe. Up to this time it had been slight. Under the vigorous application of hot baths and large hot poultices this subsided. On the evening of the 9th Holland gin was given, a teaspoonful every two hours. Within twelve hours improvement in the urinary symptoms was marked, due doubtless to the juniper in the gin. The use of the catheter was stopped on the 10th. On this date the temperature and pulse became normal.

In the meantime the bowels had, with periods of remission, gradually improved. By July 10th the abdominal tenderness had largely passed away, and with it the gaseous distention, which had been present almost from the start. The movements had lost the black color, their appearance indicating simply a catarrhal condition of the bowels. It is of interest to note, as showing the violent disturbance of the intestines, that for two weeks after the beginning of the attack all solid food, which was several times tried, passed through with hardly any appearance of digestion. The urine was examined during the height of the attack for albumin and sugar. Neither was found; casts were not looked for. It is to be noted that this examination was not made till after the treatment had induced a marked increase in the amount of urine passed. I regret that the blood was not examined.

After the cyanosis passed away the appearance of the patient was that of marked anæmia, which was still pronounced at the time of my last visit, on July 14th. He was ordered to continue iron, which he had been taking for a week, and a short time after was sent to West Baden Springs, this State, to recuperate.

During his illness the patient was seen by Dr. H. M. Lash, and by Dr. Thompson, of Irvington.

In looking back over the case the things which stand out most prominently in the clinical history are, the violent irritation of the bowels, the equally violent urinary disturbance, the great prostration, and the evidences of profound alteration of the blood.

DEATH BY DROWNING.

By N. L. NORTH, M.D.,

BROOKLYN, N. Y.

In a recent case of supposed drowning doubts were cast upon the cause of death because little or no water was found in the lungs, naturally exciting the inquiry, What is the mode of death by drowning? The answer, "By asphyxia," is not enough, as asphyxia is the result of the absence of air, the respiratory medium in the lungs, and may result from numerous causes, as from enfeebled respiratory power, torpor of the medulla oblongata, enfeebled action of the heart, or from various mechanical causes, or from inhalation of gases. So it would seem that water in the lungs is no necessary part of the process of drowning. It is a fact, also, that in many cases of drowning no water is found in the lungs, nor even in the bronchial tubes. Taylor cites case after case of undoubted deaths by drowning in which no water was found in the lungs, but instead only a frothy mucus about the lips and nostrils. Water may be found in the stomach, having been swallowed during the struggle; but if the individual be stunned before falling into the water, or if in any way death had been caused previously, water would not be found in the stomach. If the person were supposed to have been drowned in the ocean, bay, or Sound, and no ocean (salt) water were found in the stomach, doubt would then be cast upon the mode of death, as a strong probability would exist that death antedated the submersion.

Again, a purely accidental drowning would be more likely to show water in the lungs, the bronchial tubes, and trachea than suicidal or intentional drowning, as one going into the water intentionally would almost involuntarily take a deep inhalation before the plunge, and the lungs, being filled with air, that would prevent the water entering; while, when accidentally falling into water, the inhaling movement would naturally follow the shock of the immersion, and water, instead of air, would be drawn in by the inspiration.

Drowning, then, asphyxia by submersion, "is not owing to a certain quantity of liquid being introduced into the alimentary or air-passages, but simply to the interception of air, and of the respiratory phenomena;" hence the post-mortem appearances other than those which show externally—the cold, pallid, corrugated skin, with the half-open eyes, swollen tongue, partly protruded, and with the lips and nostrils covered with frothy mucus—would be those of suffocation and consequent upon the sudden and complete suspension of respiration, the right side of the heart and the lungs gorged with blood, the bronchial tubes and trachea more or less filled with frothy mucus, and not necessarily anything else. There may be water in the lungs and the bronchiæ and the stomach, or there may not, the condition may be the same, and only the same as if the person had been confined in nitrogen gas, or as if the individual had been simply smothered, suffocated, and died from lack of oxygen, or as if he had been in a vacuum, except that there would be the added symptoms caused by the removed air-pressure.

A CASE OF OPIUM-POISONING TREATED BY PERMANGANATE OF POTASSIUM.

By R. G. EBERT, M.D.,

ASSISTANT SURGEON UNITED STATES ARMY.

Mrs. F——, mulatto, aged twenty-three, took an unknown quantity of morphine solution at about 10.30 A.M. An hour and a half later she was found by her neighbors in an unconscious condition, and medical attendance was summoned. At 12.40 P.M she could not be roused; gave no response to external stimulation; inability to swallow; extremities, cold; cornea, insensitive to touch; pupils, contracted; pulse, weak but regular, and about seventy; respirations, superficial, and not to exceed eight per minute. At this time no history of taking or time of taking the opiate was obtainable. She was too deeply narcotized to attempt evacuation of the stomach by apomorphine. Treatment was one-fiftieth of a grain of sulphate of atropia and two drachms of whiskey hypodermically.

Respiration and pulse, the former slightly, the latter markedly, responded to this medication. While awaiting arrival of stomach-pump, heat and counter-irritants were applied to the extremities.

At 1.5 P.M. an additional one-fiftieth grain of atropia was given; at this time the post surgeon, Major Wilcox, arrived, and at his suggestion permanganate of potash, which was being prepared for irrigation of stomach, was injected deeply into the tissues of both thighs in a concentrated solution, quantity not measured, but assumed to be between one and a half and two grains of the salt. In less than three minutes (only time sufficient to lay aside the hypodermic syringe and render the stomach-tube flexible) she responded to the stimulus produced by the passage of the œsophageal tube through the pharynx, the first reflex obtained. A pint and a half of a strong solution of permanganate was thrown into the stomach, further introduction being arrested by regurgitation of the fluid, and on withdrawal of the

tube copious emesis followed; the returning liquid was not wholly discolored.

Further active medication ceased. Coffee and nursing meeting all requirements. At 1.45 P.M. consciousness was manifested; fifty minutes later questions were answered intelligently, and the facts elicited that morphine had been taken at the time above mentioned.

The first injection of atropia had no perceptible influence on the pupils; the second was so shortly followed by the permanganate that no time had been allowed to show its effects, if there were any, upon the eye. An hour afterward the size of the pupil was still below normal. The good results, so rapidly and markedly obtained, are attributed by Dr. Wilcox and myself entirely to the permanganate.

FORT HUACHUCA, ARIZONA TERRITORY.

THE EMPLOYMENT OF PILOCARPINE IN THE TREATMENT OF URTICARIA.

BY AUGUSTUS A. ESHNER, M.D.,

ADJUNCT PROFESSOR OF CLINICAL MEDICINE IN THE PHILADELPHIA POLYCLINIC.

I AM prompted to make this report by the recommendation of Abrahams,[1] of pilocarpine hydrochlorate in the treatment of acute and chronic urticaria, with a recital of three illustrative cases, and by the confirmatory report of McBrayer.[2]

A married woman, forty-three years of age, came to my service at the Polyclinic several weeks ago, with a history of having suffered for two months, intermittently, with an urticarial eruption upon the elbows, forearms, and legs, recurring for periods of two or three weeks at a time, at intervals of about a week. There was no history of the ingestion of shell-fish or other article of diet to which etiologic significance could be attached. The woman was constipated and complained of attacks of smothering attributable to distention of the stomach. No heart-lesion could be detected, and the urine presented no abnormality. Other symptoms of vasomotor ataxia were wanting. On inquiry it was learned that a dog was kept in the family, but investigation disclosed a freedom from fleas, and no other member of the household suffered as did the patient. Pills of pilocarpine hydrochlorate, gr. ½, three times daily, were prescribed, and the woman returned in a week much improved. Thereafter no more "hives" appeared, and four days later the woman reported that she had not felt so well for two years.

My employment of pilocarpine in this case was purely empirical. The drug has such a pronounced effect upon the circulatory and secretory activity of the skin, and I had observed such strikingly favorable results from its systematic employment in the treatment of erysipelas, that I was led to its use for the relief of urticaria. I fancy, too, that the drug is worthy more extended application in the domain of dermato-therapy than it has heretofore received. I should prefer its subcutaneous injection when the patient is under immediate observation, but I feel safer in directing its administration by the mouth in the case of out-patients.

FRACTURE OF THE FOURTH CERVICAL VERTEBRA AND RECOVERY.

BY CHARLES J. RINGNELL, M.D.,

MINNEAPOLIS, MINN.

ON August 3, 1893, Julius A——, a farmer, aged nineteen, came under my care at the Deaconess Institute, presenting all the symptoms of a "broken neck." After having made a careful examination, I arrived at the conclusion that the laminæ of the fourth cervical vertebra were fractured. Crepitation could be elicited. Two days previous he was about to take a bath in a small river, eighty miles from this city. He jumped in the river head first, thinking the water was deep; but to his misfortune struck the bottom and became unconscious immediately, in which state he remained for about five minutes. His companions noticed the condition he was in and carried him to the shore. After regaining consciousness he was unable to move any part of the body, excepting the head. Pain was felt only in the neck. The next day he was sent to the hospital, and when first seen he presented the symptoms above stated, with these additions: Temperature, 103° F.; pulse, 72; labored breathing; retention of urine and fæces; anæsthesia of lower extremities, extending over the abdomen, and complete paralysis of lower extremities, bladder, and lower bowel. The arms could be raised slightly, but fingers could not be moved. Complained of thirst, was unable to take any nourishment, and could not sleep. Bowels and bladder were attended to, and head fixed.

The following three weeks he was expected to die every day, as no improvement could be noticed. Temperature ranged from 102° to 105° F. Pulse never went over 72, but was generally about 65. Vesication and head-sores developed. After the third week the temperature commenced to sink, and a slight improvement could be noticed daily.

In the meantime quite a severe cystitis had developed, although every precaution had been taken in regard to cleanliness. This, however, abated, and was followed by incontinence, and it became necessary to keep a urinal in the bed to receive the urine, which came drop by drop until the twelfth week, when it could be retained for an hour's time. In the eighth week anæsthesia commenced to disappear on the right side, and in a short time on the left also. The paralysis gradually disappeared in the same order.

Improvement continued, and about December 1, 1893, he was able to sit up in the bed, having his head supported. About January 1st, this year, he commenced to walk with the aid of a chair. He remained at the hospital for ten months, and his improvement was uninterrupted. The enlargement in the neck was quite marked when discharged. Head being fixed with appropriate dressings, the other symptoms were treated as they appeared. Iodide of potassium in increased doses was given from the sixth week, and later on electricity and massage.

A few days ago I had a letter from my patient, in which he stated that he has recovered almost entirely, and that he has been attending school ever since last fall.

This case has been quite interesting to me, and might prove so to some fellow-practitioner.

LOOSE BODY IN THE KNEE-JOINT.

BY HUGO E. WAUGELIN, M.D.,

ST. CLAIR COUNTY PHYSICIAN, BELLEVILLE, ILL.

MR. A. M——, a farmer, was admitted to the St. Clair County Farm in June, 1894. He was admitted as a patient with inflammatory rheumatism. He gave a history of two years' suffering, all his trouble being located in the left knee-joint. Examination of the knee showed it to be very much swollen and exceedingly painful to touch, and almost immovable. Local applications and rest in bed with the leg elevated reduced the symptoms very materially.

About a week after, at another examination, I found what later proved to be the cause of the trouble. There was a loose body floating in the joint. This body was movable to almost all parts of the knee, both anterior and posterior, and could be carried about six inches above the patella. At times it would be lost, and then could not be found after the most diligent

[1] MEDICAL RECORD, September 15, 1894, p. 342.
[2] Ibid., November 3, 1894, p. 564.

search. I have hunted as long as an hour for it and been unable to locate it. Twice I was ready to remove it and it slipped from my fingers and was lost. Finally I located it about three inches above the patella to the inner side of the thigh. I then passed a needle under it and fixed it so I could cut down on it. The incision was about two inches long. With a pair of thin forceps I removed the body, stitched up the sac with catgut, closed the external wound with the interrupted stitch, and put on a dry dressing. The patient made a good recovery.

This body which I removed was globular in form and about half an inch in size, covered all over with little knobs which made it look very much like a blackberry, only that it was perfectly white. Microscopical examination showed it to be of bone tissue.

How did this piece of bone get into the joint? The only explanation I know of, and I think probably it is the correct one, is this. About two and a half years ago he had his knee caught between the wheels of a wagon, which laid him up for some time, and after that thought he had rheumatism in his knee. To my way of thinking, it is more than likely that a piece of bone was knocked loose and floated in the joint, causing his trouble.

Five months after I saw him, and he was doing all the work on a farm, and had as good use of his left knee as his right.

A UNIQUE CASE OF COMBINED ANTRUM AND MASTOID DISEASE.

By CHARLES H. BAKER, M.D.,

BAY CITY, MICH.

THE following case is, I believe, unique from the occurrence simultaneously of abscess of the antrum of Highmore and of the mastoid antrum, and because the latter was the direct result of the former.

Mrs. Mary N——, fifty-eight years of age, had in April, 1893, what she calls hay-fever and sunstroke (?), which was accompanied by swelling between the eyebrows and in front of the left ear; considerable pain in the cheek and a profuse nasal discharge, which lasted two or three weeks. She was treated by the use of the nasal douche, prescribed by a physician, and remained well until September 27, 1894.

At this time she nursed a very severe case of puerperal fever, losing much sleep and becoming much exhausted. While overheated, and in this condition, she laid down for a nap between two open windows, and was awakened by severe pain in the left cheek.

This was soon followed by a thick, foul, and badsmelling discharge from the left nostril, and to relieve it she again resorted to warm douches, which she continued a week, when one day she took cold water and snuffed it into the nostril from the palm of the hand.

She was immediately seized with pain in the middle ear on the left side, which increased until the exudation forced an opening through the tympanic membrane; no relief followed the perforation, and the tissues behind the ear rapidly swelled. On visiting her with the attending physician, it was decided to drill into the mastoid and also the antrum, which was done, finding a little pus in the mastoid antrum and a great deal of foul pus in the antrum of Highmore. The opening into the latter was made through the socket of the first molar, which was extracted for the purpose.

A soft rubber drainage-tube was used, for want of a regular antrum-tube, and the teeth adjoining the opening being absent, it was stitched to the gum in order that it should not be lost in the antrum or swallowed during sleep.

The patient was a confirmed morphine eater and in the habit of consuming large quantities of the drug. During her recovery she had a mild attack of facial erysipelas, which, with the use of carbolic acid and compound tincture of iodine, equal parts, applied to and around the infected area, was easily controlled.

The mastoid opening was completely healed in two or three days, the discharge ceasing promptly. The antrum was irrigated with dilute hydrogen dioxide, followed after a few weeks by potassium permanganate solution, and at the present writing, three months after the operation, she is still cleansing the cavity by irrigation from below, causing the fluid to issue from the nose. The secretion of pus is very small in amount, and will no doubt in a short time more entirely cease.

In a series of sixteen mastoid cases, this is the second in which water in quantity, douched or snuffed into the nose, has carried infection into the middle ear, and the necessity of care in cleansing the nose cannot be too strongly insisted upon. Cold water, by its action on the erectile tissues of the nose and pharynx, is more liable to cause swelling and retention long enough for mischief to be done, but any fluid which enters the Eustachian tube after first passing over a suppurating nasal membrane is dangerous.

In this connection I have often noticed an anatomical peculiarity which predisposes to the entrance of secretions into the Eustachian orifice, and so far as I have examined it has been present in all my cases. The top of the Eustachian tube, in a normal throat, protrudes from the side of the pharyngeal vault somewhat as a dormer window does from a roof, thus shedding the mucus to either side and causing it to flow down the pharynx.

But in these and some other cases, I have seen the opening nearly or quite flush with the side wall of the pharynx; or even having the lower edge of the opening the most prominent, thus predisposing to the entrance of fluids into the Eustachian tube.

PERMANGANATE OF POTASSIUM IN MORPHINE POISONING.

By WILLIAM E. PUTNAM, M.D.,

WHITING, IND.

HAD I known the value of permanganate of potassium sooner, I might have saved the lives of two men who have died from morphine poisoning in less than two years. But thanks to the discovery of Dr. Moor, my third case was saved.

Mrs. ——, aged forty-five, took at least two ounces of laudanum. When I was called the pupils looked the size of a pin's point, the hands and feet were cold, and the nails blue. Respiration was irregular. I sent first for my bottle of one-grain tablets of permanganate of potassium. Second, for my colleague. Dr. J. R. Harvey. Our diagnosis was death in thirty minutes unless permanganate of potassium would save the woman's life.

Dr. Harvey, like Dr. C. Monroe McGuire, had no faith in permanganate of potassium, simply because he had never fitted the drug to the right case.

We dissolved fifteen one-grain tablets in four ounces of water and two ounces of white wine vinegar, but we could not get the patient to swallow. I picked up a piece of rubber hose and cut off four inches, and with this over a piece of pine stick I made a gag and inserted it between the jaws. I then held the nose tightly and Dr. Harvey fed the woman the permanganate of potassium solution with a tablespoon. We gave forty-five grains or more, and slowly our patient began to recover. She was very low for about four days, her mouth and throat, and I suppose stomach, were thoroughly blackened and dry and sore from the permanganate of potassium.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE SIN OF SUBSTITUTION.

WE have recently published under the above title several of the numerous communications received in reference to the dishonesty of certain druggists. Now, while we do not believe for one moment that the dispenser is an untrustworthy man by nature, there seems to be something in the nature of his business, as conducted in different places, that gradually perverts his moral sense of rectitude and slowly leads to the crime of which so much complaint has of late been made.

To one who has given much thought to the matter, and followed the burden of these complaints, it is clear that the druggist does not begin dishonest, but that unless he exercises the greatest and most constant care he gradually is led into an easy way of looking at the physician's rights, until by a graduated course of counter-prescribing, playing the doctor, recommending something of his own as better than that prescribed, his sense of right becomes so blunted that it is no longer difficult for him to replace an expensive drug or one not in stock with a substitute.

While it may be possible that some of the talk has been instigated by unfriendly competitors, still there is unquestionably cause for much righteous indignation and bitter complaint.

The suggestion of our California correspondent, published a fortnight since, is a good one from a theoretical side, and might practically settle the question for a limited community in which the evils were pronounced. It is, however, not expedient for physicians to go generally into the drug business. There are serious objections to it, and the two professions must of necessity remain separated. The evils complained of must be remedied, and in time, no doubt, will be. In self-defence the druggist must reform. The pressure brought to bear upon him to cause this reformation will come first from us as physicians, but must be more directly applied through the schools and boards of pharmacy. They should take the initiative, and devise some stringent way of dealing with those who in disgracing themselves bring discredit upon their calling. If examples were made of some of the wrongdoers by legal proceedings much substantial good would be accomplished. It would, of course, entail some trouble in obtaining evidence, but the desirable end would more than justify the means. Perhaps if more care were taken by physicians to ascertain the facts of substitution the evil might be found to be still more prevalent than has been stated.

THE TREATMENT OF INSANITY BY INOCULATION.

SOME years ago Dr. Colin M. Campbell writing on the effect of typhoid fever said: "Perhaps at some future time when the specific fevers have become more manageable, acute attacks of insanity may be cured by inoculation." In connection with this he cited some cases showing that typhoid fever sometimes cuts short an attack of insanity.

Guesinger states that the course of the psychoses is sometimes favorably influenced by intercurrent fevers, such as pneumonia, typhoid, variola, etc. Willerding, in an article on this subject, reports a case of mania cured by an attack of pleurisy (Allg. Ztschr. f. Psych., 1888, Bd. 20, h. 1). Schutze reports a case of cure following diphtheria, and Dinter one following facial erysipelas.

On the other hand, Dr. Granger, who has studied the effects of intercurrent diseases upon two thousand cases of insanity, concludes that upon the whole such diseases have little effect. He seems to think that painful affections are more beneficial than febrile. Out of 77 cases of insanity attacked by dysentery 4 only were mentally improved, and these only temporarily. Granger attributes much more therapeutic potency to injuries than to disease. He cites six cases in which jumping from heights caused shock and injury, and in all these marked improvement followed.

We recite the foregoing evidence in connection with certain reports telegraphed from Vienna to the effect that Professor Wagner is successfully treating the insane with injections of tuberculin. It will be seen that the experience of alienists does not show that much good comes from the induction of fever in the insane, and it is most unlikely that any permanent good can come from such treatment.

THE DANGER OF TRANSFERRING THE CARE OF NEW YORK CITY'S INSANE TO THE STATE.

As will be seen elsewhere, a bill has been introduced into the State Legislature providing for the transferring of all the insane of New York to the care of the State. This bill is said to emanate from the State Charities' Aid Association and it presumably is carefully and wisely drawn.

But we foresee many dangers ahead in this plan and it behooves those interested in our charities to go very slowly.

The transfer of the county insane to the State was a measure theoretically wise and was very generally approved. But man proposes and politics disposes. Our State institutions are threatened with an invasion by the machine. Already two of these institutions have succumbed and become creatures of politicians. The simple transfer of our city institutions from one party to the other would do no good to the insane, or to sci-

ence, or to the community at large. It would result in filling the medical positions, so far as possible, with up-country political doctors, and the subordinate positions with out-of-town political heelers. If we must have politicians in these places it is better, at least, to have those who are known to the community and who are in sympathy with its interests.

It would be quite possible to reform our present asylums while under the city's control. A State machine is no better, and is rather less intelligent, than one of city origin.

OUR MATERIA MEDICA.

THE discussion upon the subject of materia medica and therapeutics held before the Academy recently, was one of great practical interest, and it will, we trust, be productive of good to the profession at large as well as the student.

The conclusion which one reaches from reading the remarks of the speakers is, that we have too many drugs, too many preparations of drugs, and too much teaching of materia medica. This leads to evils in many directions. The druggist is obliged to encumber himself with much useless and expensive material; the student has to load his already overburdened memory with a mass of useless botanical or pharmaceutical facts, and the practitioner is so embarrassed with his richness of material that he speedily forgets a large part of his materia medica, and settles down to certain routine remedies which chance successes rather than ripe experience and good judgment select.

We hear, almost with amazement, of the countless preparations of iron, mercury, and cathartics which are officinal, and the names of which are drilled into the students during the "cram quizz." The endless list of antipyretics, analgesics, hypnotics, and antiseptics which modern chemistry supplies, makes the task of learning materia medica still greater.

The remedy is largely in the hands of the teachers, and those who provide our Pharmacopœia. One of the easiest and simplest measures is that of dropping many of the unnecessary preparations of drugs. Mercury or iron can easily be given in half a dozen forms, and many of the officinal cathartics are simply of legendary value.

The dropping of special drugs from the list is a matter of more difficulty, yet something can be done in this direction. An analysis of prescriptions shows that the number of drugs in actual use is not very great, and by a large and comprehensive examination of the drugs in actual use, many superfluities can be eliminated.

LEGISLATING FOR THE KEELEY CURE.

THE Massachusetts Legislature has before it a bill compelling the use of the so-called Keeley cure in the Massachusetts Hospital for Dipsomaniacs.

If this law were amended so as to compel the careful testing of this and similar "cures," we doubt if opposition would be met, despite the repugnance of physicians to dealing with secret remedies of possibly dangerous character. But to enforce the use of such a method would be unjust and unwise. We have no doubt that the physicians of the hospital in question do apply all that is valuable in the half-dozen inebriate cures that have sprung up in the last few years. Strychnia, atropia, apomorphine, simple bitters, combined with all possible measures to stimulate the will, arouse self-respect, and improve the general health of the patient, will do much for inebriates; no special "cure" can do any more.

News of the Week.

European Bacteriologists very Busy.—The following note from a Berlin correspondent appears in *The Sun*: "This is no time for young bacteriologists to come to Europe for instruction. The men foremost in that field of science are too busy with their investigations to give lectures. A young bacteriologist who has been hanging around the University of Berlin for a couple of months, catching up any scraps of information that his professors might be good enough to let drop, and looking through microscopes in the hope of discovering something that he didn't know before, went off to Paris to see if he could find some one there who would stop his investigations long enough to give him instruction. He found even a worse state of affairs there. The scientific men of to-day who are making investigations in bacteriology are as feverish as were the prospectors for gold in California half a century ago."

Manhattan State Hospital.—Assemblyman Conkling has introduced a bill for the transfer of the dependent insane of New York County to the care of the State. This measure, which, it is understood, emanates from the State Charities Aid Association, provides that the New York City asylums for the insane, located on Ward's Island, New York City, and at Central Islip, Suffolk County, shall be transferred to the care and custody of the Manhattan State Hospital, to be established by the act. Among the provisions of the bill are the following: The whole of Ward's Island, with its buildings and the equipment of the existing asylums, are to be leased to the State at a rental which is to be the equivalent of interest at the rate of three per cent. upon the sum of $2,500,000. It will be remembered that in 1892 the State sold to the city of New York one-half of Ward's Island for the sum of $1,000,000. It is therefore assumed that the entire island is worth at least $2,000,000, and the value of the buildings which have been erected upon the island for the purpose of asylums for the insane is estimated at $500,000.

The Central Islip property is also to be leased to the State at a rental which shall be the equivalent of the interest at three per cent. upon $400,000, which is less than the actual amount which has been expended for buildings on the property. It is provided that either of the leases may at any time be surrendered by the State, or may be terminated by the city by five years' written notice to the Comptroller of the State. In case either of the leases shall be terminated by the city of New York, the State is to be reimbursed for buildings which it may have erected and improvements which it may have made, the amount to be determined

by appraisement by a commission of five citizens, two of whom are to be appointed by the Governor, two by the Mayor of New York City, and a fifth by these four. The Manhattan State Hospital is to be governed by a board of seven managers, appointed by the Governor and confirmed by the Senate, and their powers and duties shall be the same as those of the managers of the other State hospitals. Subject to the civil service laws of the State, the managers are to appoint the general superintendent, who in turn appoints all subordinate officers. The Commissioners of Charities and Correction of New York City are to surrender the lands and buildings of the existing asylum, with their furniture, fixtures, stock, and supplies then on hand, to the newly created State Hospital on October 1, 1895. An appropriation of $25,000 is made for the lease or purchase of a dock and for the purchase of a steam ferryboat. The present officers of the asylums are continued in office during the pleasure of the managers, subject to the civil service rules applicable to the other State hospitals. On and after October 1, 1895, the Manhattan State Hospital will come under the provisions of the State Care Maintenance Act, and will be organized and maintained as are the other State hospitals for the insane.

Convicted for Grave-robbing.—Three men who robbed a grave near Franklin, Ind., have been convicted and sentenced to six years' imprisonment. The body was found in the dissecting-room of the Indiana Medical College.

Treatment of Influenza in London.—Influenza continues to be extremely prevalent in London. A member of Parliament who is just recovering from his fifth serious attack, has written to the papers advising the sufferers to mix fifteen grains of citrate of potash in a tumbler of hot water with the juice of one lemon, and to sip this mixture day and night. The idea that fifteen grains of citrate of potash will do any good in influenza, will surprise medical men at least.

Exit Pithecanthropus Erectus.—Dr. Harrison Allen (*Science*) says that the molar tooth of Dr. Dubois's "Missing Link" is human and not at all simian; the skull is also human and so is the femur. The bones found, in fact, are all human and not simian. This view is also taken by Lydekker in *Nature*.

Medical Society of the Missouri Valley.—The Medical Society of the Missouri Valley will meet at Sioux City, Ia., March 21st.

A Doctor Shot.—Dr. A. S. Bickel, of Florid, Ill., recently called on a farmer's wife who was seriously ill. While the doctor was warming himself by the fire, the husband came to him and ordered him out of the house, saying his services were not needed, at the same time brandishing a shotgun. As the doctor was making a hasty exit, the farmer shot at him, the entire charge entering his right side. Medical aid was summoned, but it is supposed the shot is fatal. The patient had ordered the doctor, contrary to her husband's wishes, and this enraged him. Wives will consult their husbands in Illinois hereafter before sending for a doctor.

Kings County Medical Association.—The following officers have been elected for the year 1895: *President*, Dr. J. C. Bierwirth; *Vice-President*, Dr. N. W. Leighton; *Recording Secretary*, Dr. F. C. Raynor; *Corresponding Secretary*, Dr. H. C. Riggs; *Treasurer*, Dr. E. H. Squibb.

The Mississippi State Medical Association meets in Jackson on Wednesday, April 10th.

Appointments at Jefferson Medical College.—Dr. William Thomson, who has been Honorary Professor of Ophthalmology, has been given the full professorship. Dr. Howard Forde Hansell, who has been Chief Clinical Assistant, has been made Clinical Professor of Ophthalmology.

The Regulation of Doctors' Fees.—A member of the Illinois State Senate, whom we may term O'Dwyer, has introduced a bill into the Senate regulating the fees of physicians and surgeons. The *Journal* has not been favored with a copy of this bill, but we learn by the daily press that the bill proposes to fix the maximum fee for any surgical operation at $100. Senator O'Dwyer is given credit by the veracious chronicler of the press for being the first to bring this subject to the attention of the law.—*Journal of American Medical Association.*

The Death of M. Alphonse Guerin, of Paris, is announced as having taken place on Thursday, February 21st. He was seventy-eight years of age.

A Statue of Dr. Gross.—The House passed the Senate bill granting permission to the American Surgical Association and the Alumni Association of the Jefferson Medical College to erect a statue to the memory of Samuel D. Gross in this city. The bill appropriates $1,500 for a pedestal.

The Congress of German Surgeons.—The Twenty-fourth Congress of German Surgeons will be held at Berlin from April 17th to 20th. Professor Gussenbauer will preside.

A Monument to Billroth.—A monument to the memory of Professor Billroth will soon be erected in the court of honor of the University of Vienna. The Council of the Faculty has also decided to erect a monument to Skoda and Rokitansky.

How should the Surgeon Clean his Hands?—In Germany the usual method for surgeons to clean their hands is that of Fürbinger. It consists in brushing the hands and nails with soap and hot water, then dipping them in an eighty per cent. alcohol solution, and finally washing with a two per cent. sublimate of mercury, each part of this proceeding to last one minute. Recently Reinecke, of Leipzig, has asserted that a sure disinfection of the hands may be obtained by rubbing them with alcohol only and washing afterward with pure sterilized water. The alcohol owes its power to its action in dissolving the sebaceous substance on the surface of the skin, and enabling the bacteria which adhere to it to be easily washed away. Instead of brushes, which are difficult to clean and which irritate the hands, he recommends loofah sponges. Another reformer in this matter is Dr. Schleich, who rejects all brushing, and only washes the hands with a soap invented by himself, which consists of domestic soap (one part), marble powder (three parts), and lysol (four per cent. of the whole). This soap is said to clean less

by chemical than by mechanical means, the fine marble powder penetrating into all the folds of the skin and rubbing away all dirt and detritus.—*Berlin Correspondent of Lancet.*

Average Duration of Life among Physicians.—A curious statistical record has been compiled by Dr. Salzmann, of Essling, Wurtemberg, on the average duration of life among physicians. He found, in going over the ancient records of the kingdom, that, in the sixteenth century the average duration of life among that class was but 36.5 years; in the seventeenth century, 45.8; in the eighteenth, 49.8; and at the present time they reach the favorable average of 56.7. It appears from the foot-notes to the above that this very great increase in longevity is due to the disappearance of the "Black Pest," the introduction of vaccination, and the great diminution in the number of typhus epidemics, three classes of diseases formerly the especial scourges of medical practitioners.

Journalistic Amenities.—At the banquet of the Mississippi Valley Medical Association we note among the toasts the following:

"THE MEDICAL JOURNALIST"—Thou liar of the first magnitude.—*Congreve.*

Response—Dr. Frank P. Foster, Editor *New York Medical Journal.*

There is a kind of grewsome humor to this, which the distinguished editor evidently accepted with his usual good-nature. He described in his remarks with much eloquence the greatness of the Mississippi Valley and its Medical Association.

Further Medical Journalistic Amenities.—"To the pismire, whose weakness can arouse naught but a sneer, to the pale gray ass, whose offensive sounds loudly reverberate from his rear, to the gadfly buzzing around our editorial ear, we simply respond, Shoo fly, don't bother me."—*Medical Mirror.*

"Ētis" or "Ītis."—An unfortunate uncertainty obtains among the profession of this country as to the proper pronunciation of the large class of words whose termination is *—itis.* Many prefer the continental vocalizing of *i*, giving it the sound of English *ē*. The English profession and a very respectable portion of the American profession use the vowel *i* with its long English phonation—*ī*. There can be little doubt of the correctness of the usage of the latter group, so long as it is English we speak and not German or French. There is absolutely no authority for a continental vocalization of *i* in English speech, for if custom is pleaded in its favor, it is easily shown that custom is widely at variance, and that "*—ītis*" has more users than "*—ētis.*" Neither is there any uncertainty among the lexicons, whether medical or general, for with quite remarkable unanimity they give the English phonation. Expressing our sympathy for the adherents of the continental sound, we must needs leave them to their fate. —*Western Reserve Medical Journal.*

Treatment of Tuberculosis with the Blood-Serum of the Horse.—Dr. Paul Paquin, for many years Professor of Bacteriology in the State University at Columbia, Mo., and more recently member of the State Board of Health of Missouri, has been experimenting for some time upon the blood-serum of the horse as a remedy for tuberculosis. Demonstration satisfactory to himself having justified faith, and acting upon his belief that the horse is naturally immune against tuberculosis, he has been using for some months the blood-serum of selected horses, carefully injecting the serum underneath the skin of the victim of tuberculosis. He claims that the horse being naturally immune against consumption, the blood does not require artificial immunization, but can be used direct. About fifty cases have been experimented upon with almost universally satisfactory results. Dr. Paquin has presented a detailed report of his work to the St. Louis Medical Society.—*Medical Mirror.*

A Man with a Big Heart.—Mr. A. J. Salmon died suddenly at Battersea, London, from a pudding indigestion. Autopsy showed that his heart weighed 21 pounds! —(*Temps.*) This must surely be a mistake. The heart weighs ordinarily about 10 ounces. It may hypertrophy up to 20 or even 40 ounces—but 20 pounds!

Public Hospitals.—The fancy on the part of physicians to erect public hospitals is one that seems to be growing. Dr. Lane, of San Francisco, has indulged himself in this way, and M. Henri Schneider has built and presented to the town of Creuzot, France, a hospital with accommodation for fifty beds.

An Anti-cigarette League, representing twenty-five thousand public-school boys in this city, has been organized.

The Communion-cup and the Homœopaths.—At the Forty-fourth Annual Meeting of the Homœopathic Medical Society of the State of New York, held in Albany, February 12th and 13th, it was

Resolved, This society is in full accord with the statement that the prevention of disease is preferable to its cure, and, believing that the adoption of sanitary methods tends to the prolongation of life and the prevention of disease, desires emphatically to place itself on record as being in perfect sympathy with the movement, now becoming widely spread, to dispense with the usual method of distributing the communion wine, and urges the speedy adoption of the individual-cup system, thereby avoiding the possibility of contracting many forms of infectious disease.

Barred Out of the Massachusetts Medical Society.—The Massachusetts Medical Society has voted to debar from its membership all graduates from the College of Physicians and Surgeons of Boston.

Reviews and Notices.

ATLAS UND GRUNDRISS DER OPHTHALMOSKOPIE UND OPHTHALMOSKOPISCHEN DIAGNOSTIK. Mit 5 text- und 102 farbigen Abbildungen auf 64 Tafeln. Von DR. O. HAAB, Professor an der Universität und Direktor der Augenklinik in Zürich. München: Verlag von J. F. Lehmann. 1895.

IN this small volume, one of a series of medical hand-atlases, we have a contribution to ophthalmoscopic diagnosis and pathology not less valuable than the large works of Jaeger and Liebreich. Being small, its

pictures cannot be judged by the same standard of fine quality which belongs to them. But their execution is really admirable, and the illustrations representing conditions nowhere else portrayed are not few. To the beginner as well as to the expert in ophthalmoscopy, the book will be most useful. Sixty-nine pages are devoted to description of the technique of the ophthalmoscope and its use, and to the appearances of the normal fundus oculi. The shadow test is adequately explained, not only in its method of use, but as to both its merits and its deficiencies.

The various appearances of the normal fundus are given in seven pictures, and if, in Fig. 3 a, the glittering reflex from the retina seems overdrawn, the attempt to show what sometimes is met with, will suggest the true explanation of an appearance which might be supposed to be a severe type of inflammation of the retina. The congenital anomalies are figured in eight pictures. It is proper to speak of seven sketches in Fig. 37, showing the senile alterations at the macula, which are by no means infrequent and are liable to be overlooked, leaving unexplained a serious loss of vision. A very interesting series of pictures, Figs. 38 to 45, shows the lesions due to blows upon the globe and to the entrance of foreign bodies. The white patches on the retina of only a few hours' duration, Figs. 39, 40, caused by direct blows (Berlin), have never before, the writer thinks, been depicted in color. That the presence of a small bit of iron adhering to the retina should occasion a lesion at the macula, when this locality has not been touched, is an observation not less important than novel. See Fig. 41.

In brief, this little atlas is a compact and admirable store of information. It is creditable to both author and publisher, and it is most agreeable to recognize that the high standard of ophthalmological teaching, which was so famous in Zürich during the lifetime of the lamented Horner, is being sustained by his successor.

FESTIGKEIT DER MENSCHLICHEN GELENKE, mit besondere Berücksightigung des Bandapparates. Habilitationsschrift für die Universität München. Von Dr. med. J. FESSLER. München: M. Rieger'sche Buchhandlung. 1894.

THIS work contains the report of a series of experiments to test the strength of the human joints, that is, the power of resistance offered by their ligamentous structures. The values were obtained by means of three machines, one used for testing the traction-strength of wire, the other two being powerful levers. In the collaboration of a surgeon with a professor of physics we have a guarantee of the correctness of the results, which is but too often wanting in works of this kind.

THE PHYSIOLOGY OF THE CARBOHYDRATES: Their Application as Food and Relation to Diabetes. By F. W. PAVY, M.D., LL.D., FR.S., Fellow of the Royal College of Physicians; Consulting Physician to, and formerly Lecturer on Physiology and on the Practice of Medicine, at Guy's Hospital. London: J. & A. Churchill. 1894.

THERE seems to have been recently a revival of interest in the subject of glycosuria and of the whole question of carbohydrate metabolism, and this work by Dr. Pavy is therefore most timely. The author's views are known to all students of this subject through his former writings and utterances, and especially through the doctrines promulgated in his Croonian Lectures delivered last June. In this book the arguments in support of his theory are stated at length and the experiments from which they were deduced are described in detail and freely illustrated by micro-photographs. Dr. Pavy is known as the strongest opponent of the theory built up by Claude Bernard in his experiments, and he has here set forth most convincingly and interestingly the grounds for the faith that is in him.

A MANUAL OF DISEASES OF THE EAR, FOR THE USE OF STUDENTS AND PRACTITIONERS. By ALBERT H. BUCK, M.D., Clinical Professor of Diseases of the Ear, College of Physicians and Surgeons. Second edition. Pp. 457. New York: William Wood & Co. 1895.

IN the present edition the distinguishing features of excellence are a new chapter on the analysis of symptoms, a desirable elaboration of the chapter on chronic purulent inflammation of the middle ear, while the section devoted to the description of operation on the mastoid process has been rewritten, elaborated, and profusely illustrated. All of which enhances its value as a text-book and maintains its well-won reputation as an authoritative treatise.

A MANUAL OF ORGANIC MATERIA MEDICA AND PHARMACOGNOSY. By LUCIUS E. SAYRE, Dean of the School of Pharmacy, Professor of Materia Medica and Pharmacy in the University of Kansas, etc. Pp. xx., 555. Philadelphia: P. Blakiston, Son & Company. 1895.

IN this substantial volume we find described the botanical and physical characteristics, source, constituents, and pharmacopœial preparation of the official, as well as of a large number of unofficial, drugs. The drugs derived from members of the animal kingdom also receive attention. The subject of pharmacal botany is discussed in the chapters devoted to morphology and to structural botany. In order that the student may understand the proper relationship of drugs, a two-fold classification is employed: 1, That of prominent characteristics, rhizomes, barks, cellular drugs, extractive substances, etc.; and 2, that of natural orders. In both classification to each drug is assigned the same number. This double classification is ingenious and facilitates reference. While an attempt to treat the subject of pharmacal botany in eighty-five pages necessarily results in a somewhat sketchy presentation, the author has accomplished his purpose of laying before the student the essential facts of botany. In the second part, although the pharmacopœial definitions are not followed, they are concise and, in general, excellent. The illustrations, nearly five hundred and fifty in number, are mostly from original drawings, and add greatly to the value of the book. Of especial interest are the appendices treating of insects injurious to drugs and of organic remedies formed by synthesis. In the latter appendix we recognize many old friends, and, as well, the newer acquisitions to materia medica. Their classification, as of the paraffin series, halogen derivatives, alcohols, ethers, esters, derived ureas, oxybenzoic acids, etc., is especially helpful, and tends to reduce to orderly precision the chaos which exists in the average mind when it attempts to understand the relationship of the numerous synthetic compounds. A third appendix is devoted to pharmacal microscopy, quite too brief, we believe it to be, and to a very satisfactory glossary of botanical and therapeutical terms. We have read this book critically, and we believe that the presentation of these subjects is a very satisfactory one and a faithful representation of the present existing knowledge which obtains in these closing years of the nineteenth century.

THE ESSENTIALS OF HOMŒOPATHIC THERAPEUTICS. By W. S. DEWEY, M.D., Late Professor of Materia Medica, Hahnemann Hospital College of San Francisco, Cal., etc. Pp. vi., 266. Philadelphia: Boericke & Tafel. 1895.

THIS little book is a quiz-compend upon the application of homœopathic remedies to diseased states, and under chapter headings of diseases and symptoms are found the various symptoms and indication for the use of drugs. Doubtless the homœopathic practitioner will find this a very convenient book for reference.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting February 21, 1895.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Discussion on Amputations: A Statistical Study of Seven Hundred Cases from Eight Hospitals of New York City. Topics: Mortality, Gangrene of Flaps, Secondary Suture, Drainage, Dressings, etc.—The discussion was introduced by short papers upon the several topics named, by Drs. J. F. Erdmann, H. Lilienthal, F. Torek, P. R. Bolton, C. C. Carmalt, and S. Tousey.

DR. B. F. CURTIS, Chairman of the Section on Surgery, under whose auspices the meeting was held, said that the subject of amputations had been chosen for discussion in preference to abdominal surgery and some other topics, because of its more general practical importance. The original object had been to collect statistics of the city hospitals in their bearing upon primary union of amputation wounds, and union with or without sinus, and only incidentally upon the mortality-rate, etc.

DR. ERDMANN'S paper showed that of 703 amputations in eight city hospitals, forming the basis of his and the other papers, there had been a total mortality of 109, or 15.5 per cent. These were divided as follows: Of the wrist, 7 cases, no deaths; of the forearm, 74, with 1 death; of the elbow, 6, no deaths; of arm, 88, with 16 deaths; of the shoulder, 24, with 6 deaths; of the foot, 64, with 5 deaths; of the leg, 156, with 19 deaths; of the knee, 46, with 6 deaths; of the thigh, 223, with 48 deaths; of the hip, 18, with 8 deaths. The general mortality, therefore, was 15.5 per cent. In 31 cases death was due to general shock; 51, to septicæmia existing previous to the operation; 18, to constitutional causes; 27, to operative shock; 1, to secondary hemorrhage; 3, to sepsis following the operation; 3, to complicating nephritis or pneumonia; 1, to poisoning with bichloride. Under fresh or primary cases there were 270, with a mortality of 21.4 per cent.; non-primary or old injuries and disease, 433 cases, mortality of 11.7 per cent.

Dr. Erdmann then divided the cases into those operated upon between 1884 and 1889, and those operated upon between 1889 and 1894. The fresh traumatic cases showed an improvement in the mortality during the last period of five per cent.

These statistics were then compared with some given in *The Lancet* and with those reported in the MEDICAL RECORD recently by Dr. Estes. The great superiority of the latter was to be accounted for in part by the fact that they were in a degree select, and also by the younger age of the patients.

DR. HOWARD LILIENTHAL stated the results as to gangrene of the flap, by which was meant extensive sloughing or marginal necrosis. The latter, marginal necrosis, was not opposed to good surgery. Of 367 cases where the flaps consisted of skin alone, 69, or nineteen per cent., sloughed in whole or in part, while of 216 cases of musculo-cutaneous flap, only 41 sloughed, or nineteen per cent.—showing the comparative advantage of the musculo-cutaneous flap as to vitality. The skin flap was also found to be more easily killed by sepsis. The statistics showed further that constitutional disease was a frequent cause of flap necrosis. Great judgment was required in deciding as to the viability of tissues through which amputation was done. The tendency to flap gangrene was greatest below the knee. Musculo-cutaneous flap was to be selected wherever possible.

DR. TOREK had found that out of the 703 cases secondary suture had been employed in 37; in 20 of them the wound was closed in forty-eight hours; in 17 later. The former were termed early secondary suture, the latter late secondary suture. In none of the 37 had there been death; primary union in 17, or forty-five per cent. Seventy-eight per cent. united; twenty-two per cent. did not. Late secondary suture had not given as good results as early secondary suture, for reasons not far to see. Primary union depended mainly on two factors—proper adaptation of the parts and asepsis. When the flaps had granulated for some time, they were not so likely to be aseptic nor to permit of accurate adaptation. While the ideal method would be immediate adaptation of the flaps without drainage, yet where the chances of primary union were in the least degree doubtful, Dr. Torek thought better results would be obtained by secondary suture.

DR. P. R. BOLTON, writing of drainage and dressings, said that the only purpose which drainage could serve in an aseptic wound was to remove serum and blood. It seemed that this purpose could be served by proper suture and dressing. Where, however, there was infection, drainage would continue to serve an important purpose. In the statistics given, of 490 cases treated by suture and drainage, 167 healed by primary union; 128 by primary union with sinus; 195 by granulation with more or less suppuration of the flap. Of 142 amputations of the upper extremities, 72.5 per cent. healed by first intention; of 348 of the lower extremities, fifty-five per cent. healed by primary union; seventy per cent. of those of the hip; sixty per cent. of those of the thigh; forty-three per cent. of those of the knee and leg; forty-six per cent. of those of the foot. Of 56 cases treated with suture without drainage, 34 healed by first intention, 8 by first intention with sinus, and 14 with granulation.

The question of whether drainage should or should not be employed must be decided in most cases by the disease or injury for which amputation was performed. It could be dispensed with in many cases of amputation for tumor, also in some cases of joint disease, trauma, etc.

DR. C. C. CARMALT had found details with regard to the duration of the treatment in only sixty of the cases. The average stay in the hospital had been forty-two days. But this was of little significance without taking into consideration the environments, general condition of the patient, condition of field of operation, and the after-treatment. In two of the sixty the duration in the hospital after amputation had been one hundred days. In none of the sixty cases had there been primary union. The younger subjects went out earlier. Hemorrhage and shock had apparently had no influence on the duration of treatment. There was delay in all cases where there had been other diseases or exhaustion. This remark did not apply to disease of the heart or kidneys, syphilis, or vascular changes, except thrombosis in one instance.

DR. S. TOUSEY read regarding shock and other points, basing his remarks upon 181 of the cases which were observed at Roosevelt Hospital. In amputations for traumatism, in cases in which the primary shock was marked, the mortality had been forty per cent.; where it was absent, the mortality had been only five per cent. The inference was that the shock from the injury killed the patient. If the shock were slight or absent, the condition of the nerves of the limb from the traumatism was one of paralysis, and amputation did not act to produce more shock, as was seen where the shock of the operation alone had added to the mortality only five per cent., whereas the original shock increased by the shock of the operation increased the mortality very greatly. Dr. Tousey thought the operation should be done before this paralysis of the nerves had been recovered from. The statistics showed that where the shock had been treated more than twelve hours prior to amputation there had been sixty-six per cent. of deaths, against twenty-two per cent. of deaths

in cases with shock of like degree, but treated only three or four hours before amputating.

The other subject which he had studied at Roosevelt was the circumstances affecting the frequency and duration of sinuses. Age had little to do with it, while the site of the amputation had a great deal to do with it. Sinuses occurred oftenest in amputations of the upper extremities, especially at the shoulder, but the duration was greater in the case of the lower extremities, and greatest of all in the foot. It made little difference in the duration whether bone-tube or rubber-tube were used for drainage, the advantage being a little on the side of rubber. The age of the patient had much to do with the mortality.

General Discussion.—Dr. Charles McBurney was asked to open the general discussion. The subject, he said, was too vast to attempt to cover it in a systematic manner. Therefore, he would refer only to a few points suggested by the papers. He thought the mortality at present would be much smaller compared with that of ten years ago, if amputation were done as frequently. With improved antisepsis, etc., surgeons now tried to save many limbs severely injured, which some years ago would have been sacrificed at once.

The speaker seldom saw gangrene of the flap. It was not infrequently due to bruising and injury inflicted by the operator, especially when the flap consisted of skin alone. Particular attention should be given to the condition of the circulation at the proposed point of amputation. If it were in a doubtful state, amputate higher. If the foot were gangrenous one could easily tell whether it were safe to amputate at a given point by making a transverse incision and observing whether hemorrhage followed. If not, the circulation at that point was poor, and one should go higher.

Dr. McBurney was in accord with what had been said with regard to the value of secondary suture in decreasing the mortality. He would include it under the head of drainage. The only objection to drainage consisted in leaving it too long. If the wound were aseptic, the tube ought certainly not to be left in longer than forty-eight hours, probably not longer than twenty-four hours. Much could be said with regard to shock. A loosely attached limb could be snipped off with the scissors, the wound treated by open tampon, the patient allowed to go without further traumatism until shock was recovered from, secondary amputation being done later. He had saved several patients by pursuing this course when primary amputation would probably have ended fatally.

In the speaker's opinion, many cases of shock, so called, were cases of hemorrhage. The amount of blood lost was a matter of very great importance, and one should, at a very early period, make use of active measures to overcome its bad effect. For this purpose he had found of greatest value hot saline solution thrown into the blood-vessels. The infusion might be made before, during, or after amputation. A quart or quart and a half of normal salt solution could thus be injected.

Point for Amputation Determined by Esmarch's Bandage.—Dr. L. A. Stimson thought it not unlikely that the greater mortality attributed by one of the speakers to waiting twelve hours or longer on account of shock was due, not to the waiting, but rather to presumably greater severity of the injury in those cases. He had been taught by Dr. Van Buren not to amputate during shock; that amputation would be safe as soon as the temperature began to rise again from subnormal. We owed much to Dr. McBurney for calling attention to the value of injections of saline solution. Regarding necrosis of flaps, he had seen many cases at the Chambers Street Hospital and elsewhere in which doubt existed as to the vitality of parts through which it was proposed to amputate, and he had found the best means for determining that point to be the application of the Esmarch bandage three to five minutes. After its removal there would be a blush in the blanched healthy skin not seen in the diseased or non-vital portion. Follow the outline of the parts which had been white. The knife should be carried down close to the fascia in all skin flaps, as it increased the chances of survival of the flap. Loose suture and snug bandage would give all drainage required in most cases, thus doing away with the drainage-tube and with the necessity for change of dressing called for by other plans.

Dr. Robert Abbe emphasized a few points, the first being the importance of using muscle and skin flaps instead of skin alone wherever possible. The skin flap sloughed because of tendency to fall in folds and because of pressure on harder parts. Another point was the value of deep-buried suture in muscle over the end of the bone. Regarding drainage, he had been surprised that so much had been said about sinuses resulting. There might be a little sinus for a while, but this was unimportant, while drainage was very essential. As to gangrene, it was apt to occur in amputations through the foot, because bone immediately underlay skin, whereas, in amputations where muscle as well as skin and subcutaneous tissue overlay the bone, there was better nutrition. Besides, amputations through the middle of the foot did not leave a serviceable limb because of painful scars, etc., and it was better to cut through the lower third of the leg if possible, or through the lower third of the thigh, points at which instrument-makers found it possible to apply the most serviceable artificial limb. Amputation through the lower third of the leg was to be preferred even to Symes's amputation, although this gave an admirably bearing stump. He thought shock was due largely to hemorrhage.

Dr. F. H. Markoe thought the cases divided themselves into two classes naturally—amputation for traumatism and amputation for disease; again, into amputation for septic conditions and for non-septic conditions. In non-septic conditions amputation should be done through healthy tissues and the wound closed. By using buried suture, accurate apposition, and careful dressing, he had had no occasion to regret omitting drainage. In traumatic cases he agreed with Dr. McBurney that we should cut away waste tissue and wait until after shock had passed before amputating. In certain of the remaining cases gauze drainage might be used twelve to thirty-six hours, and in the others secondary suture and tamponade.

Dr. F. W. Murray thought it had been definitely shown that since the introduction of antiseptic surgery the mortality from amputations had been decreased, and it was destined to be decreased still further. He always drained the first twenty-four or forty-eight hours. He had great faith in secondary suture in certain cases. He, too, had had opportunity to save the lives of several patients by hot saline infusion. It was very necessary in amputations to shorten anæsthesia as much as possible, and this was one important reason for using tamponade and secondary suture.

Drainage or no Drainage.—Dr. B. F. Curtis said it had been hoped to show the comparative advantage of drainage and no drainage in amputations, but a fair conclusion could hardly be drawn from the statistics given, since drainage had been practised in over five hundred cases and omitted in only about fifty. With drainage there had been absolute primary union in thirty-seven per cent. of the cases of amputation of the upper extremity, thirty-three per cent. of the inferior extremity, or thirty-four per cent. altogether; and primary union including sinus in seventy-two per cent. of the upper extremity, fifty-five per cent. of the lower extremity, or sixty per cent. altogether. Against this, without drainage there had been absolute primary union in sixty per cent. of amputations of the upper extremity, seventy-one per cent. of the lower extremity, altogether sixty-seven per cent.; and primary union including sinus, in seventy-three per cent. of amputations of the

upper extremity, seventy-seven per cent. of the lower extremity, or seventy-six per cent. altogether.

Dr. Curtis thought New York surgeons did not appreciate as much as they should the advantage of getting rid of drainage, since it would exclude danger of introducing sepsis with the drain, and again with the second dressing. While a sinus, usually due to the drain, might not be serious, yet it was very disagreeable, and kept the patient in the hospital for days when the space was desired for new patients. One cause of gangrene of the flaps had been cutting them too short, so that there was tension on the sutures which held them over the ends of bones. He did not think all would agree with Dr. Abbe in his condemnation of amputations through the foot, especially in workingmen, who could not meet the expense of renewing costly artificial legs.

There should be improved methods of keeping records of cases in our hospitals. Some important details were lacking in these statistics.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, February 18, 1895.

S. B. W. McLEOD, M.D., PRESIDENT, IN THE CHAIR.

Annual Address by the President.—DR. McLEOD chose for the subject of his address, "The Place and Influence of the Medical Profession in the Progress of Civilization." His remarks referred not alone to members of the profession, but equally to many outside the profession who had done much to further its efforts in elevating the human race. Among these were Benjamin Franklin, Stephen Girard, the Vanderbilts, and many others. It was not easy to define the word civilization. While in its full sense it meant advancement, yet it was attended by certain disadvantages unknown in the savage or uncivilized state. Some of these were the accidents attending the introduction of the industrial arts. The profession was called upon to treat the injuries resulting from railway travel, to cope with the spread of contagious diseases through modern facilities for travel. The organization of a meteorological bureau and the establishing of boards of health were features of modern civilization, and promised much for the promotion of human health and happiness. The question might well be asked, what next should engage our attention, and how with our improved means were we to meet our present responsibilities?

A few of the many questions of lively interest were, the eradication of tuberculosis; prevention of spread of disease in schools; greater widening of the field of usefulness of orthopedics; the further perfection of electro-therapeutics; prevention and treatment of ophthalmia neonatorum; should criminals by heredity be unsexed; improvement in relation to expert testimony.

Dr. McLeod referred also to the prosperous condition of the Association, and said it was a duty and a pleasure to enter upon the new year with energy and determination in the purpose to consider such subjects as were practical and calculated to improve the profession and promote the public health. The great work accomplished by the late Dr. William Detmold, the first president of the Association, was placed before the members, young and old, as a most worthy example.

The Neuroses of Women.—DR. T. J. McGILLICUDDY read a portion of a long paper which he had prepared on this subject. Every woman, he said, suffered more or less, and many almost constantly, from functional derangements of some of the organic structures of the body. Many simple deviations from the normal were really precursors of conditions of a most serious nature. But calling them minor ailments, there was still every reason to investigate them, because of their great frequency and the important bearing which they had upon our success as practitioners. Our first duty was that of healing, and not altogether that of trying to solve scientific problems. Old ladies and lay persons generally were loud in their praises of irregular practitioners, simply because they had given attention to their minor ailments.

Among the more important of these lesser derangements were the reflex neuroses. Some seemed to consider them insignificant, and some even appeared to doubt their actual existence. By the generic term neurosis was meant a hyperæsthesia or disturbance of the nervous system which simulated disease in an organ that was healthy, or without evident lesion of any of its parts. It might be general or local. The specialist who saw such patients must have the knowledge of the general practitioner, otherwise many mistakes would be made in diagnosis and treatment of chronic ailments. If the confiding and unsuspecting patient with a run-down constitution, the result of anxiety, bad air, and a worse diet, and with a headache and some abdominal or uterine symptoms, should stray into the office of an enthusiast in ocular tenotomy, he would probably want to relieve her distress by dividing the rectus muscle for eye-strain. If, however, she should strike a surgical gynecologist of a certain class, a symptomatic uterine catarrh, an unoffending laceration, or a harmless, retiring cystic ovary would be pounced upon by this enlightened specialist, and receive most vigorous treatment; and if he did not always carefully sterilize his instruments he would probably succeed in sterilizing his patient. Or her destiny might lead her into the office of a digestive specialist, who, of course, would diagnose stomach trouble as the cause of all her ills, and proceed to lower several feet of rubber hose into her surprised stomach and treat that organ to a wholesome bath. If our specialism was allowed to run into exclusivism, very shortly the only safe man for a patient to consult would be the old-fashioned general practitioner, with all his faults and deficiencies.

There was much difference of opinion with regard to the causation of the various neuroses, but many cases had been recorded illustrating the fact that peripheral irritation was a very decided factor in their production. Irritation might be set up in any part of the body, and result in a reflex disorder in a distant organ. Some of the sources of irritation which might be noted were: The digestive organs—indigestion; *a*, stomach—gastric catarrh; *b*, intestines—parasites, ulcers; *c*, rectum — hæmorrhoids, thread worms, pruritus ani. The genito-urinary organs—inflammations, internal; *a*, kidneys—calculus; *b*, bladder — calculus, catarrhal states; *c*, ovaries—inflammation, morbid growths; *d*, uterus—inflammation, morbid growths. External; *a*, vulva—pruritus, herpes; *b*, clitoris—adhesions. The respiratory organs—inflammation, irritation (catarrh), new-growths—the eyes—eye-strain, errors of refraction and accommodation. The ears — abscess, impacted cerumen.

This, the author said, was by no means a complete summary of the causative factors which operated in the production of reflex disturbances, yet they were fair examples of what we should look for when searching for some peripheral irritation to assist us in the diagnosis and treatment of disease.

Strong mental impressions stimulated the vesical and rectal nerves of the young soldier when going to battle for the first time; the uterine nerves in the young female emigrant produced amenorrhœa, from the excitement incident to leaving home and going to a new country. The differential diagnosis between a severe reflex headache depending upon uterine or digestive trouble, and beginning exophthalmic goître where a

rapid pulse and swollen thyroid were among the earliest manifestations, was often exceedingly difficult, as the mere fact of entering a physician's office for examination would often produce in nervous young women a great amount of excitability, giving rise not only to a rapid pulse, but also globus hystericus and temporary congestion of the thyroid.

The following classification of the neuroses suggested itself: The neuroses of the nervous system; of the circulatory system; the respiratory system; the genito-urinary system; the glandular system; the cutaneous system. The spinal and cerebral centres were not alone implicated, but the ganglionic and vasomotor nerves probably even more. The cardiac and solar plexuses in particular, took an important part. A further division of the neuroses with regard to the parts affected might be made as follows: cerebral, spinal, cardiac, vascular, pharyngeal, laryngeal, bronchial, gastric, intestinal, renal, vesical, genital, glandular, ophthalmic, aural, lingual, articular, dermal. Many of these were combined, as in the cerebro-spinal, gastro-intestinal; while two or more might exist at the same time, as vascular and glandular.

The author had time to read further only about the cerebral neuroses or psychoses. Among peculiar mental conditions depending upon morbid conditions of the abdominal and pelvic viscera, were: mental depression; loss of memory; excessive irritability; wakefulness; intense lethargy and drowsiness during the day; morbid fears, as of death. Under the head of cerebral psychoses fell catalepsy, trance, hypnotism, somnambulism, neurasthenia, anæsthesias, amenorrhœa, enuresis, dyspepsia, and diarrhœa coming on from bad news or "hard times." Also all the hysterical symptoms depending upon the emotions, such as hysterical aphonia, hysterical apnœa, hysterical laryngismus, hysterical suffocation and strangulation. More severe types were melancholia, mania, and convulsions.

The cerebral neuroses often occurred in neurotics from the mind being directed to a particular part. This was seen in patients who were familiarly known as "womb cranks," who imagined they had uterine disease, and were sometimes readily cured by almost any simple manipulation of the uterus.

The author related a case of migraine, hemiplegia, and chorea depending upon uterine irritation. The symptoms came on after an attack of diphtheria, but as she had suffered from disordered menstruation and hysterical symptoms, and the hemiplegia disappeared from the left side and later appeared on the right, it was evidently of a hysterical nature, starting, with her other hysterical symptoms, from pelvic disturbance. Like chorea—which was also present in this case—functional hemiplegia was found during periods of development.

Diagrams were shown.

Melancholia due to Uterine Retroflexion.—Dr. H. J. Boldt thought the paper was so complete that nothing remained to do but relate cases in corroboration. He recalled the case of a woman who had suffered from profound melancholia with suicidal tendency, due entirely to retro-displacement of the uterus. There was relief after replacement of the womb, but subsequently it again became displaced, melancholia returned, and again disappeared on the insertion of a pessary. Tachycardia was common in backward displacements of the uterus.

Dr. Boldt, and some of the speakers who followed him, emphasized the author's remarks upon the necessity for a knowledge of general medicine before practising a specialty, and cautioned against the recognition of but one part of the human frame, that which happened to correspond to one's speciality.

Dr. Frederick Peterson, having arrived in time to hear only the latter part of the paper, remarked simply upon a study of the entire system, and cautioned against unduly magnifying any of the organs in the production of neuroses or psychoses. For instance, he believed that in connection with gynecology there had been a tendency to attach too much importance to conditions of the uterus and ovaries in the causation of neuroses. An experience of two or three years in an asylum had convinced him of the correctness of this view.

Dr. Nathan G. Bozeman mentioned a case of enuresis in which it was possible to make very accurate observations, since the woman had a vesico-vaginal fistula. She was suffering from an irritable condition of the organs of the pelvis, which was not relieved by the treatment which a physician, who had previously seen her, had directed to the uterus. On one occasion the urine was collected every hour for thirteen hours. During the first twelve hours she passed only one ounce of urine, while the next hour she passed fifteen ounces.

Dr. Achilles Rose mentioned as an example of the influence of emotion on the gastro-intestinal functions, the fact that, as Napoleon's army was going through Poland in 1812, all the soldiers had dysentery from drinking stagnant water, but the dysentery ceased during a battle of three days' duration, and returned at its close.

Dr. J. Blake White emphasized the statement that one should practice general medicine before entering upon a specialty.

Dr. Leonard Landes pointed out the difference between exophthalmic goitre and myxœdema as described by German and French writers, having mistakenly understood the reader of the paper to say they did not differ.

Dr. Brothers said a word as to the treatment of neuroses, and particularly of the necessity for checking sexual excesses and errors of diet, which were among the most potent causes. Calisthenics should be practised. Arsenic occupied about the first place among drugs.

Dr. Frank Van Fleet thought there had to be an idiosyncrasy, else patients with uterine disease, ocular trouble, etc., would not suffer from reflex neuroses. When that idiosyncrasy did exist, he thought the exciting cause was no more likely to be in the uterus than in the eye or other organs, and it might be necessary to send the patient to several specialists before relief could be given.

Dr. McGillicuddy, in some concluding remarks, said he thought general practitioners should know enough about medicine to treat the neuroses without sending the patients to specialists.

Paroxysmal Hæmoglobinuria.—Dr. Bishop reported a case in which the urine on certain occasions contained blood-pigment, but which upon careful and repeated examination had not been found to contain blood. The patient was a sailor, and had begun to pass colored urine from the time of great exposure on shipboard. He could bring on an attack at will by exposing himself to the cold, and it was only after exposure to cold that the urine was colored. In the summer he had attacks—apparently replacing the paroxysmal attacks of hæmoglobinuria—of cerebral symptoms coming on at night, during which there was fright, especially fear of being enclosed in a small space, as a barrel. Dr. Bishop had advised the patient to take up his residence in a warm climate, but such advice, he said, might prove disastrous should the cerebral symptoms become more frequent in the absence of attacks of hæmoglobinuria.

A New Diagnostic Sign of Carcinoma of the Stomach consists, according to Boas, confirmed by Dr. D. Stewart (*Medical News*) in the presence of lactic acid. By giving a test-meal (flour soup) quite free from any lactic acid this acid was never found in any conditions except those of carcinoma.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, January 23, 1895.

GEORGE P. BIGGS, M.D., PRESIDENT.

Primary Tuberculosis.—DR. E. HODENPYL presented three specimens of tuberculosis, illustrating some rare conditions. The first one was from a case of primary tuberculosis, with volvulus and perforation of the intestine. He was indebted for this specimen to Dr. Sanger, house physician of St. Francis Hospital. The patient was a fairly nourished man, forty-five years of age, a baker by occupation, who gave a history of the bowels not having moved for two weeks previous to his coming to the hospital. On admission, the abdomen was distended, and his temperature was 99°. A large dose of calomel failed to relieve the constipation, and on the following day several enemata were given without result. After this he was given a large dose of croton oil with negative result. The temperature then rose, an intense peritonitis developed, and he finally died. The autopsy showed a general peritonitis, and at about two feet from the ileo-cæcal valve a volvulus which completely constricted the intestine. Above this point the intestines were considerably distended. Here there were also two perforations of the intestine, and another perforation was found below the point of constriction. The intestines were covered with a rather large number of tubercular ulcers. Microscopical examination confirmed the diagnosis of tuberculosis of the intestine.

The speaker said that this was the first case of primary intestinal tuberculosis he had met with, and so far as he could ascertain none of his medical friends had seen such a case. There was nothing in the history to give a clew as to how he had contracted the disease, and there were no evidences of tuberculosis in other parts of the body than the intestine.

Healing Tubercular Ulcers of the Colon.—The second specimen presented had been removed from a man who had suffered for a number of years from pulmonary phthisis. In the small intestine were a moderate number of small tubercular ulcers, while in the colon there were a number of ulcers with irregular margins and smooth bases. Microscopical examination of these ulcers showed some remnants of tubercular disease, but the bases were covered with new connective tissue. It was certainly rare to find a case in which tubercular ulcers of the intestine were healing.

Tuberculosis of the Bladder.—The third specimen was more interesting from a clinical standpoint than from a pathological one. The specimen had been taken from an old consumptive, who had been in the hospital for three months before his death, and yet no bladder symptoms had been detected.

The autopsy showed advanced tuberculosis of the lungs and two or three small tubercular abscesses in the kidney. The bladder was quite small and contracted. In the fundus were a number of irregular ulcers, and toward the edge a few miliary tubercles. Section of the walls of the bladder showed tuberculosis and considerable round-cell infiltration.

DR. WILLIAM VISSMAN asked if in the second case the patient had been treated with tuberculin, as the condition in the intestine was very much like that found in patients who had been treated with tuberculin shortly after its first introduction.

DR. HODENPYL said that he did not know how the patient had been treated.

THE PRESIDENT said that the specimen recalled to his mind one recently added to the museum of the New York Hospital, the clinical history of which he did not for the moment recall. There were characteristic tubercular ulcers presenting distinct evidence of attempts at repair.

DR. SAMUEL ALEXANDER, referring to the third specimen, said that the position of the ulcer, so high up in the fundus of the bladder, was a very unusual feature, without any ulceration in the trigone. If we were to hold to the theory that tuberculosis of the bladder was due to an extension from the urinary tract below, usually beginning in the seminal vesicles or the prostate, it would seem strange that the bladder should escape so completely. Such a condition, he thought, was almost unknown among clinicians.

DR. HODENPYL asked if Dr. Alexander had found in his experience that tuberculosis of the bladder was usually attended with great pain.

DR. ALEXANDER replied in the affirmative.

Urethral Stricture, Cystitis, Suppurative Nephritis.—DR. FARQUHAR FERGUSON presented the bladder, urethra, and kidneys from a male, fifty-six years of age, who was admitted to the service of Dr. L. A. Stimson on January 17th. He had had gonorrhœa twelve years before. During the past five years there had been difficult micturition; the stream of urine had been small, and the urine had contained mucus and pus. He had been obliged to get up several times during the night, the pain being greater at night and when the bladder was full. During the three weeks prior to his admission to the hospital he had had more pain, micturition had been more frequent and difficult, and the urine had contained both blood and pus. At the time of his entering the hospital the urine was dribbling away constantly. Dr. Stimson performed supra-pubic cystotomy under cocaine anæsthesia, and the bladder was continuously irrigated. After the operation the urine had a specific gravity of 1.010, contained five per cent. of albumin, and the microscope showed numerous pus-cells. Although the bladder was constantly irrigated, the patient's condition steadily grew worse, and he finally died on January 21st. At the autopsy, the supra-pubic incision was found to communicate with the bladder through an opening 1½ ctm. in diameter. In the perinæum were three sinuses leading toward the urethra. After the removal of the bladder it was found that the sinuses communicated directly with the membranous portion of the urethra. At the junction of the membranous and penile portions of the urethra was a tight stricture. In front of the stricture the canal was narrowed and its wall thickened for a distance of five centimetres. This portion presented evidence of previous inflammation. Behind the stricture the urethra was greatly dilated, dark in color, and necrotic. The wall of the bladder was greatly thickened, and in its walls were numerous pouches containing pus. These varied in capacity from one to fifty cubic centimetres. The mucosa of the bladder was softened and discolored. A probe two millimetres in diameter passed through the stricture. The pelvis of each kidney was dilated. and the left kidney contained numerous purulent foci.

Purulent Pericarditis.—Dr. Ferguson also presented a remarkable specimen of purulent pericarditis. The patient was a male, twenty-two years of age, who had been admitted to the hospital on January 7, 1895. He had previously had two attacks of la grippe, and was an alcoholic subject. Five days previously his illness had begun with severe pain in the right side and in both knees, an aching in the lumbar region posteriorly, and dyspnœa. He had not had a chill or cough, nor had he been very feverish. He had had no headache, and had not been aware of any heart trouble. His dyspnœa had grown steadily worse. On admission, his pulse was 122, respirations 48, and temperature, 100.8° F. Physical examination showed friction sounds in both axillæ, and abundant sibilant and sonorous rhonchi scattered over both sides of the chest. There was dulness at both bases posteriorly, and also diminished respiratory murmur. Just below the spine of the right scapula was an area of diminished resonance, and over this portion were distant bronchial voice and breathing. Respiration was labored and rapid. The cardiac area appeared to be normal. The first sound of the heart was somewhat valvular and

feeble, and the heart action was rapid, regular, feeble, and occasionally intermittent. The other organs were normal. The urine had a specific gravity of 1.020, but was normal except for a trace of albumin. During the next seven days he was given stimulants freely, and was cupped over the chest several times, but without improvement. His cough increased until it became very distressing. The temperature varied between 101° and 102°. On January 15th he was discovered to have pericarditis, and three days later he died very suddenly. The autopsy was made five hours after death. The lower part of the upper lobe of the right lung presented the appearance of red and gray hepatization, and there was no evidence of resolution. The entire lung was poorly aërated, and was congested and œdematous. The left lung was also poorly aërated, and showed the effects of pressure by the fluid in the pericardium. The pericardium, which was enormously distended and thicker than normal, contained in its cavity 2600 cc. of pus and fibrin. Its inner surface was quite rough and was covered with fibrin. The visceral pericardium was also covered with fibrin, and on removing this fibrin the pericardium underneath was seen to be intensely congested. The heart showed the effects of pressure, being crowded upward and backward. On separating the right lung from the pericardium an area of lymph three centimetres in diameter was found between the pneumonic area in the lung and the pericardium, which at this point was involved so that microscopical sections showed the entire depth of the pericardium to be the seat of inflammation, from the lymph outside to the endothelium. Examination of the pus and cultures from it showed Fraenkel's diplococcus in vast numbers.

Dr. S. T. Armstrong said that Dr. John B. Roberts, in his monograph on "Paracentesis Pericardii," had cited a number of instances in which he had tapped the pericardium, and had recommended irrigation where the cavity contained septic material. The speaker said that he had tapped pericardia where there had been much less distention than in the case just reported, and he had at present in the hospital a patient who had been tapped two years ago, and had done well since then. Another and rather radical operation had been recommended—that of trephining a rib, stitching the pericardium to the chest-wall, and irrigating.

The President said that in the case reported by Dr. Ferguson the house staff had been afraid to tap, as the pneumonia had been thought to be more extensive, and as the respiratory sounds had been heard quite far forward, it was not thought during life that the distention of the pericardium was anything like so great. It would be seen from the specimens that both lungs overlapped the pericardium, and were adherent to it, so that while there was dulness, the respiratory sounds extended far over.

The Society then went into executive session.

Aseptic Hands.—Reinicke, in Zweifel's clinic, has been studying the various methods recommended for cleaning the hands before operation. He used two cultures, one of a very resistant potato bacillus, and the other of the bacillus pyocyaneus. These he rubbed on his hands, allowed to dry for one hour, and then tried to wash off, using all his solutions as hot as could be endured. Water, soap, and brush, 3 to 5 per cent. carbolic solution, 1 per cent. bichloride solution, failed to sterilize the hands; but after brushing them five minutes with absolute alcohol, and then rinsing in sterilized water, they were perfectly microbe-free. He thinks some of the effects must be due to the fat-dissolving power of the alcohol, as he considers its bactericidal power very slight.—*Berliner klinische Wochenschrift*, December 3, 1894.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE COLD WAVE OVER ENGLAND—EFFECTS ON DISEASE AND MORTALITY—APPEAL FOR ST. THOMAS'S HOSPITAL—THE COLLEGE OF SURGEONS—THE HUNTERIAN CELEBRATIONS—MEDICAL, CLINICAL, AND MEDICO-CHIRURGICAL SOCIETIES—CASES—ÆGOPHONY—SPECIAL DISCUSSION ANNOUNCED ON SYPHILIS.

London, February 16, 1895.

Another week of bitter cold winds, severe frost, and snow makes the weather still the uppermost subject of even strictly medical news. It is many years since we have suffered such a hard month. In New York you might not regard it as phenomenal, for you enjoy (?) greater extremes of temperature than we are accustomed to; so we are not prepared for them.

Our œdiles, too, are "feeble folk"—a touch of frost or a fall of snow paralyzes them. It's a pity we cannot exile them to Paris or further, just to learn their business. The newspapers, too, are so busy reporting deaths from cold, frozen animals, skating items, snowed-up trains, and other hindrances to traffic and movement, that they have no time to drive home the lessons of hygiene and government which ought to be enforced by the chronicle of disaster. Could anything be more pathetic than to read of hale drivers frozen to death on their rounds, or the wild deer coming from their forests to share with man the warmth of an engine fire?

The sight of hundreds of sea-gulls that have found their way to London may now be witnessed on the Thames Embankment, and numerous are the men and women who go to see and throw food to the poor, half-starved birds which scramble for the fragments thrown to them. The effect on the mortality will yet be seen, and we know the returns will show a great increase in the deaths of the very young and the very old.

Some of the mains of the water companies are frozen, and because we have handed over a monopoly to these companies their servants do nothing to help their customers, and in some instances insult applicants for the water they have contracted to provide. It is a strange sight, in even aristocratic quarters, to see a single standpipe erected in a street, and the servants of the houses fetching pails of water, while thousands of men are unemployed and would be glad if the companies would engage them to carry the water and fill the household cisterns. Take this as an example—there is a house paying £20 a year for water, and the company is not fulfilling its contract. A very little expense incurred would enable it to do so. Surely it is time for Parliament to step in and declare the monopoly forfeited.

On Wednesday the Duke of Connaught presided at a meeting at the Mansion House, called to appeal for £100,000 for St. Thomas's Hospital. No doubt the charitable public will respond. Indeed it would be sad if they did not, for though there may be room for criticism and possibly reform in the management, St. Thomas's is a great hospital, doing a great work, and the demands on its resources are growing while those resources are diminishing.

The Council of the College of Surgeons have passed a resolution that, in accordance with their legal adviser, it is not expedient to accede to the resolution of the Fellows at their January meeting. Just as I predicted, the members' society is now in working order, but what it will accomplish remains to be seen. The Government has promised not to grant the increased judicial powers asked for by the Council until the members have been heard in opposition. If the members' society has sufficient tact something may be obtained from this decision.

The College yesterday (14th) kept Hunter's day, as usual, by the Hunterian oration, which was delivered this year by the President, Mr. J. W. Hulke, and will rank with its predecessors. I cannot do justice to it in the few lines at my disposal—nor yet to another oration delivered in honor of Hunter—that at the society named after the illustrious surgeon. This was given the previous evening, so as not to clash with that at the College. It was entrusted to Dr. Patrick Manson, who gave a demonstration of the malaria parasite in connection with which you will recognize his great authority. I must defer any account of these two celebrations and pass on to record that those who ventured out to the societies during this bitter week have been rewarded by some interesting cases on two clinical evenings—one at the Medical Society, on Monday, when nearly a dozen patients were exhibited; the other at the Clinical Society, on the previous Friday, when fully as many patients were presented. Here also a bottle of green urine was shown passed by a child early one morning. It had been noticed sucking some blue cloth the evening before. This cloth was dyed with indigo, which seems to have combined with the yellow coloring matter of the urine to strike green, an interesting object-lesson as to unusual appearances.

On Tuesday the ordinary meeting of the Medico-Chirurgical Society was devoted to Ægophony. Dr. F. Taylor read a paper on the causation of this symptom, which he attributed to a dissonance or musical discord —the result of beats occurring between the higher harmonies of the note uttered by the patients. The hypothesis was elaborated with some care, but did not meet with full acceptance. If not discord, it at least produced some dissonance; one Fellow remarking that the author had confused musical discord with an unpleasant noise, which is only a popular idea of discord. Another said it was no question of harmonics, but only a confusion of tones of different timbre, though of the same pitch. As the symptom is of little clinical importance, its causation is only an academical question, and the discussion hardly deserves further notice.

I have already announced that special discussions will be held in future at this Society. The first of these is to be opened on the 26th, by Mr. Hutchinson, "On Affections of the Nervous System Occurring in the Early (Secondary) Stages of Syphilis." A number of eminent men have already been asked to take part in this discussion, which appears likely to be vigorously sustained. Perhaps it will bring to light new facts as well as stimulate criticism.

THE PNEUMOCOCCUS AND IMMUNITY DISCUSSION AT THE PATHOLOGICAL SOCIETY OF LONDON.

(Special Report by our London Correspondent.)

An important meeting of the Pathological Society was held on February 5th, when Dr. Washbourn described his researches on the pneumococcus, with especial reference to immunity. After stating the results of others, he gave some account of his own extensive experience in the case of rabbits. Intra-peritoneal and subcutaneous inoculation were both used. Peritonitis generally ensued after the former; sometimes, with very virulent cultivations no peritonitis was noticed, although the animals died from general infection. Sometimes an animal died from marasmus a long time after inoculation. No cocci are then found in the blood, but in some cases there was a parenchymatous nephritis. The course of the fever, and the occurrence of cocci in the blood after inoculation were stated in full. When the temperature began to fall, then the blood was crowded with cocci. Of the various means of producing immunity, Dr. Washbourn had generally used that of G. and F. Klemperer, by previous injection with heated broth cultivation. The immunity did not occur till twenty-one days after injection, and disappeared after the thirty-first day. Dr. Washbourn quoted a number of experiments showing that the blood-serum, when injected with virulent cultivations, was protective. In other cases the serum was not protective, and this was due either to the rabbits not being perfectly immune, or to the fact that the serum was removed at the wrong date. The experiments of Klemperer with the serum of patients recovering from the effects of pneumonia were described. He made but a few experiments, and was only able to prolong the life of the inoculated rabbits. The serum removed by a blister from patients in the acute stage, injected either simultaneously with or previously to inoculation, exerted a bad effect, and caused death earlier than in the control experiment.

Dr. A. E. Wright then read a paper on the "Bacteriology and Pathological Chemistry of Pneumonia," in which he stated that the crisis which ends an attack of pneumonia is very similar to that in connection with spirillum fever, and this spirillum fever is a typical septicæmic infection; so that if we could succeed in understanding what occurred in the organism in the crisis of spirillum fever, it would help us to understand what occurs in the crisis of what we may now provisionally term "pneumococcal fever." We learn the following facts from Vandyke Carter. When spirillum fever is at its height we have an enormous proliferation of white corpuscles in the blood. We have also a number of free spirilla in the blood at the same period. When the crisis supervenes the white blood-corpuscles diminish rapidly, and *pari passu* with their diminution the spirilla disappear from the blood. These changes are in nearly all cases associated with an excessive turgidity, tumefaction, and tenderness of the spleen or the liver. Now, this triple phenomenon of a diminution of the white corpuscles, a disappearance of the bacteria from the blood, and the tumefaction of the internal organs, especially the spleen and liver, can be experimentally produced. We need only, as Werigo has shown, inject bacteria or particulate matter of any kind, such as carmine grains, into the blood, and we shall immediately produce our triple phenomenon. Almost all the polynuclear white corpuscles disappear from the blood in the next few minutes, and on killing the animal we find the bacteria or particles in the internal organs, chiefly in the spleen and liver, and with them the polynuclear corpuscles. We further find many of the bacteria are lodged in the interior of these polynuclear white corpuscles; we thus see that the disappearance of white corpuscles from the circulating blood, the disappearance of the bacteria, and the tumefaction of the internal organs, are all signs of a phagocytic reaction, which eliminates these elements from the circulating blood. To apply these facts to the pneumonic crisis during the fever's height, there is an enormous increase of blood-corpuscles, especially of the polynuclear white. When the crisis occurs we have a very rapid fall in their number. If our hypothesis is true this lessening should go hand in hand with the critical fall of temperature associated with a process of phagocytosis and with an elimination of pneumococci from the blood. Passing on to the pathological chemistry of pneumonia—suppose that the pneumonic fever has ended with a crisis, and that it is over, and the inflammatory process has come to an end. Our patient is, however, not well yet, and it is not merely the question of recovering the lost strength. He has not simply to convalesce, but to undo all that the local inflammatory process has done. He has to reabsorb into his system, and then to excrete, substances which are contained in the enormous mass of white corpuscles which is filling up the alveoli of the lungs. Almost the entire substance of the white blood-corpuscle consists of a nucleo-albumin, and this nucleo-albumin is identical with the nucleo-albumin originally prepared by Woolridge from the white blood-corpuscles of the thymus gland, the injection of which was

shown by him to be followed by intra-vascular thrombosis; pneumonic lung extract in solution is comparable to blood plasma, and injected into the blood of a dog, kills the animal at once with intra-vascular thrombosis. On the other hand, it is possible that the absorption of the nucleo-albumin from the lungs may take place so gradually that its absorption may present no analogy with such injection. We should then have no fear in the direction of intra-vascular thrombosis. We should have to deal with the results of a slow injection of nucleo-albumin into the blood, viz., a lessening of blood coagulability analogous to the diminution produced in animals from an injection of peptone, and might be followed in man, as it is in a dog injected with peptone, with diarrhœa. Perhaps many of the critical diarrhœas may be explained in this manner.

Dr. Washbourn, in reply to a question, said that neither antitoxic nor curative power appeared to reside in the serum of animals affected with pneumonia, and there were no late developments comparable to the paralytic seizures in diphtheria.

IS ANTITOXIN OF ANY VALUE?

To the Editor of the Medical Record.

Sir: Your issue of December 29, 1894, contains an editorial headed "An Attack on the Diphtheria Antitoxin."

The article is seemingly a *résumé* of Dr. Hansemann's paper, read before the Berlin Medical Society, and the views of the editor of the Medical Record; both, according to my opinion, being erroneous and of a misleading character.

First, as to Hansemann's conclusions, they might carry weight, he being, as you state, an assistant to Virchow, were it not for the fact that at a subsequent meeting Virchow completely disavowed Hansemann's conclusions. Secondly, so far as the Loeffler bacillus is concerned, every bacteriologist having given diphtheria special study will, without prejudice, admit the presence of the Loeffler bacillus, either alone or accompanied by various other bacilli and micrococci, consequently it is not an astonishing factor that this bacillus should be found in rhinitis fibrosa, or in the healthy throat.

Now as to the three qualities of the antitoxin, viz., its therapeutic action, its harmlessness, and its immunizing power. I base the following statements concerning these three topics upon my observations of Roux's serum, as I saw it prepared at the Pasteur Institute, Paris, and in the service of Dr. Chaillon, in the Hôpital des Enfants Malades. In the first place, Gottstein, whose pamphlet you cite authoritatively, does not include among his statistics those of the above-mentioned important clinic, which, from my last personal observation, December 15, 1894, exhibit a mortality of eight per cent. only, and although every sore throat (angine) was subjected to the serum treatment only those exhibiting the Loeffler bacillus were included in the diphtheria column, including those cases in which the Loeffler bacillus was accompanied by the streptococcus, *i.e.*, the organism causing broncho-pneumonia, and thus aggravating the original disease. In view of these facts are not the above figures sufficiently significant?

As to the serum injections not being harmless, I must again join issue with the editor and with Dr. Hansemann, and as it is a pathological fact that albuminuria is present eight times out of ten, and of great prognostic value, I claim that, so far as its presence in the serum is concerned, it is of no significance except to further demonstrate the therapeutic value of the serum, for most of the cases cited above have shown a decrease of at least fifty per cent. albumin in the first twenty-four hours following its exhibition.

It astonishes me that Dr. Hansemann and the editor of the Medical Record do not attribute the erythema, post-diphtheritic paralysis, and other well-known pathognomonic features to the serum, and I ask these gentlemen in all candor whether the decreased mortality, taken precisely from the source recommended by them, viz., clinical experience, showing a decrease to eight per cent. mortality—and this is placing it high—is not of itself a sufficient defence of serum therapy as applied to diphtheria?

As to its prophylactic value I quote from your issue of the Medical Record, September 22, 1894, p. 375: "Quite lately Dr. Katz has inoculated 72 children who had been exposed to the disease. Of these only 8 were attacked, and they so slightly as to be free from any evil consequences."

In conclusion, let me say that I heartily agree with you, sir, that it would be not only a disappointment to all well-wishers of humanity, but would be a serious blow to the rising prestige of medical science, if, after all, the serum treatment should fall short of its high expectations. This contingency need not be feared, provided that the application of the serum be kept out of the hands of the charlatans, and also that its proper preparation by experts be a *sine qua non*.

A. Gaston Roeth, M.D.

105 Mt. Vernon Street, Boston, Mass.

[In the discussion of subjects claiming the attention of the profession the Record is never antagonistic for the sake of appearing so, but always cautious in its interpretation of facts. It takes no stand for or against antitoxin, but is still open to conviction. We are merely waiting for more facts. In the meantime in this case, as in others, both sides have a fair showing.—Ed.]

THE FREE LAW LIBRARY AND MEDICAL MEN.

To the Editor of the Medical Record.

Sir: While I agree with "Old Subscriber" (p. 284), that the free dispensaries are much abused, I would like to have his attention called to an error about our legal fraternity into which he has fallen. He says, that a friend, not being a member of the library, "was not allowed to look into a book at any of the law libraries of this city." There is a law library in this city which is open to all who wish to consult the volumes upon its shelves, except to resident lawyers who are non-members of the association maintaining the same, and even they are not actually excluded. This library is in the Post Office building, and is provided with chairs, tables, stationery, and attendants to get the books, the use of all of which may be had for absolutely nothing.

Yours truly,

Francis B. Hays.

72 William Street, New York, March 2, 1895.

HOW MEDICAL CHARITY IS ABUSED.

To the Editor of the Medical Record.

Sir: If "Old Subscriber" of last week is as old as he pretends he must know that what he has to say has been said a hundred times in the Medical Record, *id est*, if he reads as well as he writes, and he must also know that talking has done no good. The remedy—and the only one I know of—lies in his own hands. The next time, and whenever he has need of a consultation or has a patient to send to a specialist, let him avoid the man who daily robs him by indiscriminate dispensary work and pick out instead one who regards the rights of his fellows. There are men at the heads of dispensary classes throughout the city enjoying large special practices who boast that they have no care for the financial standing of their dispensary cases so long as they furnish the required material for clinical purposes; and so far as the complaining doctors go, they say, "let them go and be blanked." So long as they can do this and keep

the support of the general practitioner they will hold the same views. The moment they find it affecting their pockets they may at least cease to pride themselves upon their dirty treatment of their professional brethren. Let the non-dispensary men look to their rights and they will soon have less wrongs.

YOUNG SUBSCRIBER.

CORNER VANDERBILT AVENUE AND ROOSEVELT STREET.

New Instruments.

AN IMPROVED URETHRAL IRRIGATOR.

BY C. WAECHTER, M.D.,

NEW YORK.

IN subacute and chronic inflammation of the posterior urethra, irrigations are of good service. The instruments on the market for this object seem to me to be more or less deficient; hence I requested Messrs. Lincoln & Luchesi to manufacture one which is seen in the accompanying cut. The instrument has superficial

grooves, the flow of the stream is directed backward, the bulb being somewhat larger than the tube; it is made in two sizes. I have been using this irrigator for several months with good results. It is advisable to begin with weak solutions, gradually increasing the strength. The substances which I use are: boraci and tannic acid, permanganate of potassium, nitrate of silver, etc.

220 EAST TENTH STREET.

"ISCHATIC CRUTCH."

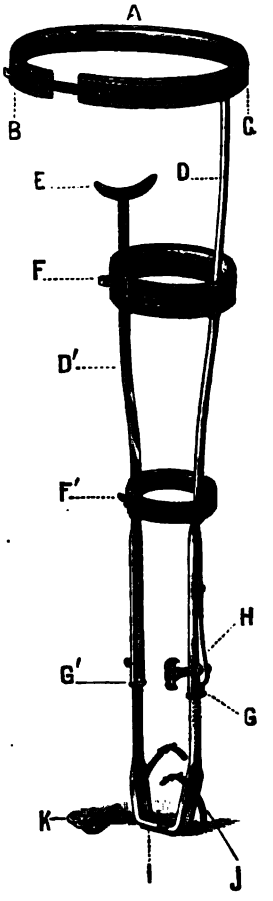
BY H. HODGEN, M.D.,

ST. LOUIS.

IN the treatment of a case of hip-joint disease, some time ago, an abscess formed which burrowed under the perineal straps. The patient was put to bed, the abscess aspirated and injected with iodoform and glycerine mixture; this was repeated once or twice, and the abscess cavity seemed to have closed. The Sayre long hip-splint, which had been used in this case, was applied. After a week or ten days the cavity again refilled, probably from the irritation of the perineal band; the patient was again put to bed, cavity emptied and injected with iodoform and glycerine, and, as before, was doing well, but upon the reapplication of the "Sayre hip-splint" the cavity again became inflamed. It was then decided that an apparatus which would make extension and yet allow the patient to walk would be necessary.

The condition of this patient not being the best, it was considered essential that he have as much freedom as possible, to derive the full benefit from exercise, fresh air, and sunlight. It occurred to me to use "Judson's Ischatic Crutch," but here again the perineal band would have pressed upon the cavity. I next thought of using the ring form of knee-splint, which is used quite extensively in New York. Upon trial, however, it was found that the padded ring in the perineum pressed upon the cavity, as had the perineal band. It was then decided that some apparatus having a short bearing surface which could be fitted to the ischium would be necessary.

In the apparatus that I have gotten up, it will be seen that the pelvic steel band A is much longer than on the ordinary hip-splint, surrounding about nine-tenths of the pelvis. This is made long, so that a firmer hold for the upper end of the splint can be taken on the pelvis. The buckle B is placed about the centre in front, in this way giving much greater stability, so far as lateral motion is concerned, and enabling one to overcome eversion and inversion. The long external upright D is riveted tight at an angle to the pelvic band at C. This upright extends down nearly to the ankle. The inner upright D′ extends from the tuberosity of the ischium down to a point corresponding with the upright D. To the upper end of D′ is fastened loosely, with plenty of lateral motion, the crutch E; this is made of quarter-inch brass rod of sufficient length to catch a good hold on the ischium. It is bent upward and outward in front, and extends nearly straight behind; the length of this, of course, depends upon the size of the patient. The anterior part should ordinarily be about one-third shorter than the posterior. The steel bands F and F′ are riveted lightly to D and D′, and surround respectively the thigh and leg, so as to prevent any movement of the leg in the splint. The movable portion I works into D and D′ at G and G′, thus allowing for the extension of the splint and for the extension of one side beyond the other. The strap J is the ordinary strap of the Sayre splint; the catch H on both D and D′ is automatic in its action. Upon pressing the key K into the opening, the catch is lifted and extension can be made; upon the withdrawal of the key, the catch immediately springs back into position at the notch corresponding to the opening. This I consider a very great improvement over the old-fashioned catch with a ring to hold it. This is the invention of A. S. Aloe Co., of St. Louis, who now put it on all their apparatus where extension is needed.



The weight of this splint is somewhat less than that of the Sayre long hip-splint; as the weight of the body is borne by the upright D′ there is no lateral strain.

In taking measurement for this brace, the steel portion of the pelvic band should extend, as above stated, about nine-tenths of the distance around the pelvis. The external upright should extend from the crest of ilium just above the great trochanter, to the same distance as the Sayre splint. The inner upright should be measured from the tuberosity of the ischium to a point corresponding with the lower end of the outer.

To ascertain the relative position of the crutch and of the riveted upright at C, measurement should be taken from a point just above the greater trochanter on the crest of ilium around the front of the thigh to tuberosity of ischium. The second measurement should extend from the first point around behind to the tuberosity; as will be seen, this will throw the crutch back of the outer upright above.

This splint gives almost complete fixation, and you are able, of course, to get any amount of extension which a patient will bear. If it is deemed necessary that complete, or nearly complete, fixation should be used, a cap of hard rubber moulded to the tuberosity of the ischium can be affixed instead of the crutch-head; all of the weight then will come upon the tuberosity of the ischium, and taking the three points, C, E, and J, it is possible to almost absolutely fix the joint.

In cases in which the limb is adducted, it is only necessary to make the upright D a little longer than D', thus tending to throw the leg out. In cases of abduction, if D' is made slightly longer than D, the tendency will be to overcome this deformity. There is no claim for the involvement of any new principle in this splint, it is simply a new application of an old principle; nor do we claim that every case of hip-joint disease should be treated with this splint, nor that a given case should be treated in all of its stages with it. I have it in use now upon three or four cases, and the patients have worn it with more comfort than the ordinary hip-splint with the perineal bands. A disadvantage of the old hip-splints has been in keeping them adjusted on cases that you cannot see at any time you choose. The perineal bands stretch and the attendant places the tongue of the buckle in the same holes in which you placed them, thus relieving the extension. In this crutch that disadvantage has been done away with. In the old splints the weight of the body when the patient steps comes on the pelvic band; this is apt to sag, letting the diseased side down lower than the well side, thus producing adduction. In the old splint we can overcome the adduction with little or no trouble by the abduction screw, but in cases of abduction the only control which we have over the deformity is through the length of the perineal band, thus tending to overcome it. In this splint the entire weight rests at once upon the inner upright D'.

The only change that can take place in the adjustment of the splint is through the strap J; this, of course, will become stretched some, on account of the weight of splint coming on it at each step, but it will not stretch nearly so much as the perineal bands, which support at each step the entire weight of the body. The stretching of the strap J, of course, will be the same in this as in the old splint.

There are a great many patients whose general condition is such that it is not advisable to keep them in bed or confine them any more than possible. Of course, in the acute stages of an acute ostitis of the hip, it is necessary that the patient be confined, and also during the exacerbations which come on from time to time; but after the acute process and at times between the exacerbations, it is necessary for a patient to be allowed as much freedom as possible. This crutch gives them a firm support, as much extension as they require, and as much or more fixation than the ordinary hip-splint. It does not give the fixation that the Thomas splint does, but it is simple and effective in its action, and there are not so many parts to give way and be repaired.

The cost of the splint is only three dollars more than the ordinary Sayre splint.

A NEW UTERINE DILATOR AND IRRIGATOR.

By H. B. ADLER, M.D.,

NEW YORK.

HAVING frequent occasion to treat puerperal patients, where either placental tissue was adherent or loosely retained in the uterus, where curetting and irrigation was necessary, I have always met with the greatest difficulties in obtaining an instrument which should have the combined virtue of sufficiently dilating the os uteri and giving a return flow strong enough to carry off the débris. I have used different instruments for the purpose and always found them inefficient. We have one in use now which dilates sufficiently, but the operator is compelled to apply with his hand a constant graduated force upon the instrument, which is next to a physical impossibility, and in order to introduce the instrument into the os, the operator is compelled to keep his hand between the handles, so that the dilating part of the instrument may not dilate prematurely. Aside from all this the instruments when in use cannot be kept aseptic, by reason of their peculiar construction. I therefore have been led to devise an instrument for dilating and irrigating the uterus, as well as a suitable curette combined, which can be kept thoroughly aseptic. It is composed of two parts. Its *modus operandi* is that of the ordinary uterine dilator; the injector is almost a straight tube with a calibre of about a quarter of an inch, sufficiently large to admit a large rod for cleansing purposes. The instrument is held in position by an adjustable spring, and locked by a patent lock of the latest design and simplicity. The instrument, by reason of its aseptic capabilities and the simplicity of its construction, will at once commend itself to every gynecologist and obstetrician.

Fig. 2.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 2, 1895.

	Cases.	Deaths.
Tuberculosis	108	133
Typhoid fever	4	3
Scarlet fever	123	29
Cerebro-spinal meningitis	3	2
Measles	120	15
Diphtheria	224	35
Small-pox	0	1

A Plea for Conculcation.—Sir Benjamin Richardson asks the medical profession to accept the word "conculcation" as a kind of philosophico-medical antithesis to "inoculation." Perhaps Sir Benjamin has as good a right to coin a new, or half new, word as most of the medical writers who have added barbarisms to the dialect of medical science. Conculcation, to use Sir Benjamin's own definition, consists in "the one grand element of perfect cleanliness in every nation, every family, every individual." That is the old and tried method of sanitary progress; and that, much more than inoculation, is the god of this venerable sanitarian's idolatry. He speaks, indeed, of inoculation with small respect. Is it worthy of being called a method of sanitation or disease prevention at all? he asks. It "pretends to render the body immune against diseases," he says; and it "predicts the greatest triumphs for its future." But at best it only professes to "prevent one disease by producing another." It appears to Sir Benjamin to be a method by which, whatever else happens, "disease" in some of its forms must be "eternally perpetuated."

A Cheap and Efficient Disinfectant for the Sick-room.—The fetid exhalations emitted by the fæces are a source of great annoyance to patients condemned to a prolonged sojourn in one room, as is the case in, for example, typhoid fever. M. Meillère strongly recommends the following powder as an efficient and very cheap deodorizing and disinfecting agent: Sulphate of

zinc, 1,000 grammes; sulphuric acid, 5 to 10 c.c.; essence of mirbane, 2 c.c.; coloring matter (*e.g.*, indigo blue), 15 centigrammes. About five grammes of this salt are placed in the bedpan before it is used. Contact with urine or liquid stools determines prompt solution of the salt, deodorization is instantaneous, and the liquid excreta are at once sterilized. The fetor is transformed into a rather agreeable odor. The employment of this method allows also of the preservation of the excreta for microscopical examination.

Up to Date.—"No!" exclaimed the fox, loftily. "I don't care for the grapes at all. Appendicitis? Not on your life!"—*Detroit Tribune.*

Typhoid Fever and Sewer Gas.—Typhoid fever cannot be transmitted by sewer gas, is the report of the experts to the London Common Council. It is also claimed that the bacilli of the disease, also, find it hard to live in town sewage.

Against the "Christian Scientists."—Following is the full text of the measure now before the New Hampshire Legislature to govern and regulate fraudulent medical practice and the so-called Christian science or faith cures:

SECTION 1.—No person within the limits of this State shall treat, attempt to heal or cure any other person or persons by the so-called Christian science or faith cures.

SEC. 2.—If any person shall treat, attempt to heal or cure, or claim or pretend to heal or cure any other person or persons by either of said methods, and shall directly or indirectly accept or receive any money or other thing in payment for or on account of such services, or directly or indirectly accept or receive any gift or reward therefor in any form, such person so offending against the provisions of this act by so accepting or receiving such money, gift, reward, or other thing, shall be fined a sum not exceeding three hundred dollars ($300) for each and every offence, and half of such amount to be given to the complainant, the other half to the State.

SEC. 3.—This act shall take effect upon its passage.

Stamping out Tuberculosis.—It is estimated that it will require $500,000 to stamp out tuberculosis among the cattle in the State of Massachusetts. The following are the figures submitted at a meeting of the Committee on Public Health and Agriculture of the Massachusetts Legislature recently: Whole number of cows in the State, 186,806; neat cattle other than cows, 47,528; number under one year old, 15,000; total number, 249,334. Ten per cent. of these being the number estimated to be infected, 24,933. Average value of these at $20 apiece, $498,660. Cost of making the test and sundry expenses, $101,340, making a total of $600,000, to which should be added $50,000, for salaries for the commissioners for five years, making a grand total of $650,000. A bill before the Michigan Legislature provides that all persons, before they can teach public or private schools in Michigan, shall be examined and obtain a certificate from a physician that he or she is not afflicted with any communicable form of consumption. In support of the bill it is asserted that teachers having the disease have communicated it to their pupils simply by coughing and expectorating on the floor. Another bill before the same body calls for an appropriation to buy ground in the vicinity of the city of Ann Arbor, whereon to build and equip a consumption hospital.—*Journal of the American Medical Association.*

The Question of Contagion in Tuberculosis.—Dr. Addison S. Thayer, of Portland, Me., in a recent discussion before the Maine Academy of Medicine, remarked as follows: "There were three young men belonging to three different families in the villages of North Gorham and North Windham, who were members of the local band there, brass band. These three fellows used in common a second-hand brass instrument, hired from a music-dealer in Portland, and were the only members of the band who did use it. Now we all know that blowers on brass instruments deposit in the interior of the convolutions of the horn a good deal of their spittle, for which they have an outlet in the bottom of the horn and which they get rid of also by tipping the horn upside down. So that it seems to me we could not have, if we tried to invent one, a better trap for catching tubercle bacilli and for distributing them to the next user of the horn than this instrument furnishes. Now practically the result of the use of that second-hand horn by the three men is this: By the advice of Dr. Harper two of them have gone to Colorado and one to Southern Pines to be cured, if possible, of tuberculosis. This circumstance in itself would not furnish an argument against Dr. Wedgwood's position except for an additional series of facts. Dr. Dunn, who practised for seventeen years in Windham, was thoroughly acquainted with two of these families, and Dr. Harper has investigated the third. He says it was sound stock clear through. Dr. Dunn says there has been no consumption in either of the two families that he knew; they were healthy, rugged, New England farmers.

"I think we all believe in heredity; but investigators who have experimented to find out whether tubercle bacilli can be actually transmitted tell us there are some cases where they are transmitted by the mother to the fœtus, while the consensus of opinion is that the father cannot transmit tubercle bacilli to the child except by way of the mother. The appearance of tuberculosis is another standard for us to go by. In young children tuberculosis appears oftenest in the glands, in the cervical glands, bronchial glands, mesenteric glands, and so on; it is a milder form of the disease than tuberculosis of the lungs which we see in older people. In other words, the child is born with a peculiar weakness, proneness, vulnerability, which is undoubtedly hereditary. An invasion of tubercle bacilli from outside may develop this proneness into glandular tuberculosis during childhood, or into pulmonary tuberculosis later on.

"Now for the practical side of this. Suppose we believe in the hereditary theory as thoroughly as our fathers did, what are we going to do about it? We can do no more than if we believed the opposite theory. In either case we can place a child under the very best surroundings, give him every chance to repel the invasion, make the soil as unfertile as possible; but, believing as we do now, we can besides do a good deal to prevent the disease. We can do it by disseminating just such knowledge as we are talking over to each other here to-night. I think there is great advantage in having this subject brought up in a society like this which includes not only doctors but laymen, which includes people who would remember an incident like this of the three healthy young men who became infected by using a brass instrument. If people only knew these things we are sure that the progress of tuberculosis would be very effectually stayed, all the sputum, as Dr. Dana says, would be disinfected, and the number of victims would be enormously diminished.

"Now as to treatment after the disease is established. It seems to me we can do good by propagating the gospel of fresh air. We have had it already said to-night that medicines accomplish very little. To be sure creosote, guaiacol, and all these things are efficient to some extent, but if the disease is well seated we all know how powerless we are to throw it off. And yet laymen as well as physicians have seen people who say, 'Why, twenty years ago I was given up, by all the doctors who examined me, to die of consumption; I threw away all medicine; I lived out-of-doors, I rode horseback, went ranching in the West,' or something of that kind, 'and here I am to-day, a healthy man.' We know that rabbits and monkeys confined in cages are susceptible to tuberculosis, whereas rabbits and monkeys allowed to

run free in their natural way never get it. After the disease is established, the lesson we ought to impress is the value of fresh air."

The Treatment of Bleeding from the Nose.—Dr. Baumgarten, of Budapest, recommends the following methods in the treatment of epistaxis: A thorough examination of the inside of the nose must be made in order to discover where the bleeding comes from. Usually there are to be seen at the anterior part of the septum, rarely elsewhere, one or more small superficial vessels of a red color, or else little nodules, erosions, and varicose veins, or a small empty vessel looking blackish on a red background. Occasionally the hemorrhagic spot is covered with fresh blood-crusts which must be softened and carefully raised in order to expose the appearances referred to. If there is nothing of a suspicious nature to be seen, the patient must be made to blow his nose several times. Another method is to apply a tampon of wet cotton to the septum, and press it more and more firmly against the place until the morbid spot bleeds. Sometimes this brings on at once a more abundant hemorrhage, which makes the continued application of the tampon necessary before the bleeding spot can be destroyed. For this destruction the author has used the galvanic cautery or chromic acid, sometimes both. He touches the spot with the cautery, which is very painful, and the wire-loop cannot always be withdrawn while it is still red, so that the eschar is apt to be removed at the same time. Then the small wound bleeds feebly, and it should be cauterized with chromic acid, which, according to Dr. Bresgen, is an excellent hæmostatic. When operating on children or on timid persons Dr. Baumgarten uses the chromic acid only, but the cauterizations must be repeated two or more times after the eschar has fallen or after a fresh hemorrhage. This treatment must be continued until a plainly visible cicatrix is produced. The patient must be told not to scratch the eschar, to apply a little oil or grease to the spot, to keep quiet, to avoid handling his nose, and not to blow it too hard. Sometimes sneezing occurs, and this may bring on a hemorrhage through the eschar. In this case the application must be renewed. A hemorrhage must always be arrested before cauterizing the spot from which it proceeds. After the source of the hemorrhage has been ascertained the spot is washed with warm water, the nostril is dilated, and as large a tampon as possible is inserted, against which the wing of the nostril is pressed with the finger. That generally suffices, as nearly all forms of epistaxis have their origin in the forepart of the nasal passages, but the patient must hold himself erect and remain quiet. After this pressure has been continued for a moment the tampon is slowly withdrawn in order to find the origin of the hemorrhage. A second tampon is then pressed against the spot. The epistaxis is thus often arrested. Afterward the place may be cauterized with chromic acid. The author has often succeeded in covering the bloody points with a layer of chromic acid by pushing the tampon forward very gently; it cannot always be removed immediately, because the wound will bleed anew, and it must be left until the following day or longer if necessary. The author, however, has never had to repeat this for more than three days. He always uses cotton saturated with carbolic acid or some other aseptic cotton, but never iron perchloride, as that only cauterizes. If the blood runs through the tampon or into the pharynx, the physician should use the same means as those employed in the more serious hemorrhages. After the part has been washed with warm water, a strip of iodoform gauze as wide as a finger should be pushed as far as the choana; then the entire nasal fossa should be packed with the same material. This may be done easily and without pain; it is better than Belloq's method, and may be accomplished even with a contracted nostril. With regard to Belloq's method, Dr. Baumgarten thinks it is not sufficient and that it may produce accidents to the ear, etc. In one case, that of an old man who was the subject of advanced arteriosclerosis, Belloq's tampon was inserted, and several tampons were added anteriorly. Two physicians had tried to stop the bleeding, but their efforts had been of no avail. The velum of the palate had been cut, and it was ulcerated and œdematous. The author, who was called in, immediately removed everything, and while the bleeding continued he applied strips of iodoform gauze, and two days afterward the hemorrhage was arrested. As a palliative method, or in cases where the anterior tampon is not efficacious, or where the patient is taking care of himself pending the physician's arrival, the author recommends the use of warm water, which is a better hæmostatic than cold water or ice-water, or else lemon-juice. A solution of iron perchloride is an excellent hæmostatic, he says, but it cauterizes the neighboring region and prevents the physician from distinguishing the diseased spot. When the hemorrhage finally stops, and the bleeding-points are found, they must be cauterized. There is no harm in cauterizing somewhat around the bleeding spot; on the contrary, the indications are to burn the entire vicinity. In cases of arteriosclerosis the author has been obliged to cauterize the entire pituitary surface as far as the choana as the iodoformed strips were removed one after another. These cauterizations should be repeated several times, and every suspected place covered anew with chromic acid. These tampons of iodoform gauze are not disagreeable to the patient, and they may be left for two days. Before removing them the nose should be washed with warm water, and the strips of gauze should be drawn away very gently in order to prevent the hemorrhage from breaking out again, and any suspected places immediately cauterized, even at the risk of touching a healthy spot. The patient may take wine and iron, but should avoid coffee, tea, and effervescing drinks. All internal medicines are useless and harmful.—*The New York Medical Journal.*

The Incandescent Gas-burner.—From experiments conducted by *The Lancet* on different methods of illumination with reference to health, this conclusion is reached: "In considering, in conclusion, the systems of artificial lighting that are in vogue at the present time, the incandescent system of electric lighting must, of course, rank first from the point of view of health, since it affords a soft, agreeable light, without giving rise to any vitiation of the air; there is no combustion, and consequently there are no products of combustion, complete or incomplete. From the same point of view we are bound to place next, in the face of the result of our present inquiry, the incandescent gas-light in its improved form. It is even less productive of carbonic acid gas than the average oil-lamp, and consumes not quite one-half less gas than the existing type of burners, giving rise, therefore, to the evolution of half the heat and half the amount of carbonic acid gas, while its illuminating power, expressed in candles, is more than three times as great as the best ordinary gas-burners or the incandescent electric lamp, each of which does not generally exceed sixteen candle-power, unless a very great expense is no object to the consumer. We are far from saying that the incandescent system of gas-lighting has attained to the highest pitch of perfection; still we are well within bounds when we regard it as the system of gas-lighting which utilizes most efficiently and most economically the full powers or duty of coal-gas as an illuminating agent."

Quarantinable Diseases.—According to the Inter-State Quarantine Regulations recently issued by the Treasury Department, the quarantinable diseases are declared to be cholera, yellow fever, small-pox, typhus fever, leprosy, and the plague.

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Original Articles.

ENTERIC FEVER IN CHILDREN AND INFANTS—A CLINICAL STUDY.[1]

BY WILLIAM L. STOWELL, M.D.,

NEW YORK.

MY object in studying my notes of cases has been twofold. First, to ascertain whether or not the clinical picture of this fever differs essentially from the same disease in adults. Second, to ascertain, in part from the literature, if this fever attacks infants, and if so, are the lesions characteristic in them.

The following description, by Dr. Flint, will serve for the adult standard: "From a clinical stand-point, typhoid fever may be defined an endemic disease continuing usually from three to four weeks; very rarely ending under two weeks, and sometimes its duration extending to six or seven weeks; distinguished from the other continued fevers by a group of abdominal symptoms to which characteristic intestinal lesions stand in a causative relation; presenting in a majority of cases a peculiar eruption; occurring especially in the autumnal season; communicable in some way from the sick to the well, and its causation generally dependent on a special morbific agent derived from human fecal excrement."

Under various names the disease has occurred in all climates where man lives or has lived since historic times. For many years it was described among children as "infantile remittent" fever. In 1847 Dr. Wood suggested "enteric fever" as a short name explanatory of the characteristic lesions, and though not perfect, it is the best yet given.

The thirty-four cases of which I have notes occurred for the most part at my classes at the University Medical College, and in the Demilt Dispensary district. As they cover nearly ten years, the small number tends to show that enteric fever is not very prevalent in New York City, although sporadic cases and groups occur every year. With our reasonably good water-supply and complete sewage system, this is as we should expect. New York's annual mortality from this disease is 2.2 per 10,000 inhabitants; that of Philadelphia, 6.6; and Baltimore, with no sewers, 5. (Osler.) The cases further correspond with Dr. Flint's summary as follows:

Duration.—Shortest record, 10 days; longest, 52 days; mean duration, 23.8 days. The adult mean is 28.1 days. (Osler.) Three cases, *i.e.*, 8.8 per cent., relapsed or were reinfected. Of 452 cases in children reported by Rilliet and Barthez, Henock and Earle, 10.1 per cent. relapsed. Adults relapsed, 7.8 per cent. of cases given by Osler.

Abdominal Symptoms.—Tympanites was nearly always present to a slight degree, and also gurgling at the ileo-cæcal valve, as in other diseases of this part. Tympanites was so marked in the boy with persistent high temperature, that his life was despaired of. Diarrhœa was marked in 29.5 per cent. of cases. A few were as markedly constipated, though loose stools usually occurred a few times before recovery. The stools of some answered to the "pea-soup" description. One mother spoke of them as "like a mustard plaster." Hemorrhage of the bowel is not recorded. Diarrhœa occurred in 33.2 per cent. of Osler's 229 adults.

Eruption.—Twenty cases, *i.e.*, sixty-six per cent., are mentioned as presenting rose spots, but I believe more did so, as the rose spots constitute one of my diagnostic points. They usually occurred on the eighth day, though one child showed them on the sixth, and another not until the twelfth day. Twice spots were profuse, and covered the extremities.

Season.—The last four months of the year furnished 73.3 per cent. of the cases, thus warranting the old name of autumnal fever. We know that water purifies itself more rapidly in summer than in winter, and the report of Dr. Edson on Croton water supports the belief. He found by weekly analysis that the number of colonies of bacteria increased steadily through the last half of the year and into January. Prudden has shown that freezing does not kill the typhoid germ, hence its activity does not cease with frost, as does yellow fever. Thus is explained the occurrence of the fever in autumn and winter.

Communicability.—The endemic nature is illustrated by twenty cases, occurring in six groups, and by the two youngest, where the mother was ill in one instance, and both parents in the other. In these I traced cases to a previous one, but did not find the real medium of contagion.

"The special morbific agent" is the bacillus described by Eberth (1880) as a slender rod three times as long as broad, and one-third the diameter of a red blood-corpuscle. These are found in the liver, spleen, kidneys, and blood, as well as in the intestines.

The bacillus of Eberth is generally regarded as having its origin in the dejecta of another case of enteric fever, though a few students think it may, under suitable conditions, develop from the bacillus coli communis.

Age.—The two youngest were twelve months and seventeen months of age, respectively. The mean age 7.97 years.

Sex.—Fifty-nine per cent. were males; forty-one per cent. were females.

The ptomaines produced by the bacilli cause toxic effects, or symptoms, such as fever, delirium, muscular degeneration with its consequent dicrotic pulse, etc. Symptoms occurred as follows: Three cases began with chills. Two of these and another had chills at the end of the illness, as if to shake off the disease. One of these had a chill January 12th and 29th, and February 11th and 16th; he therefore had a typho-malarial fever.

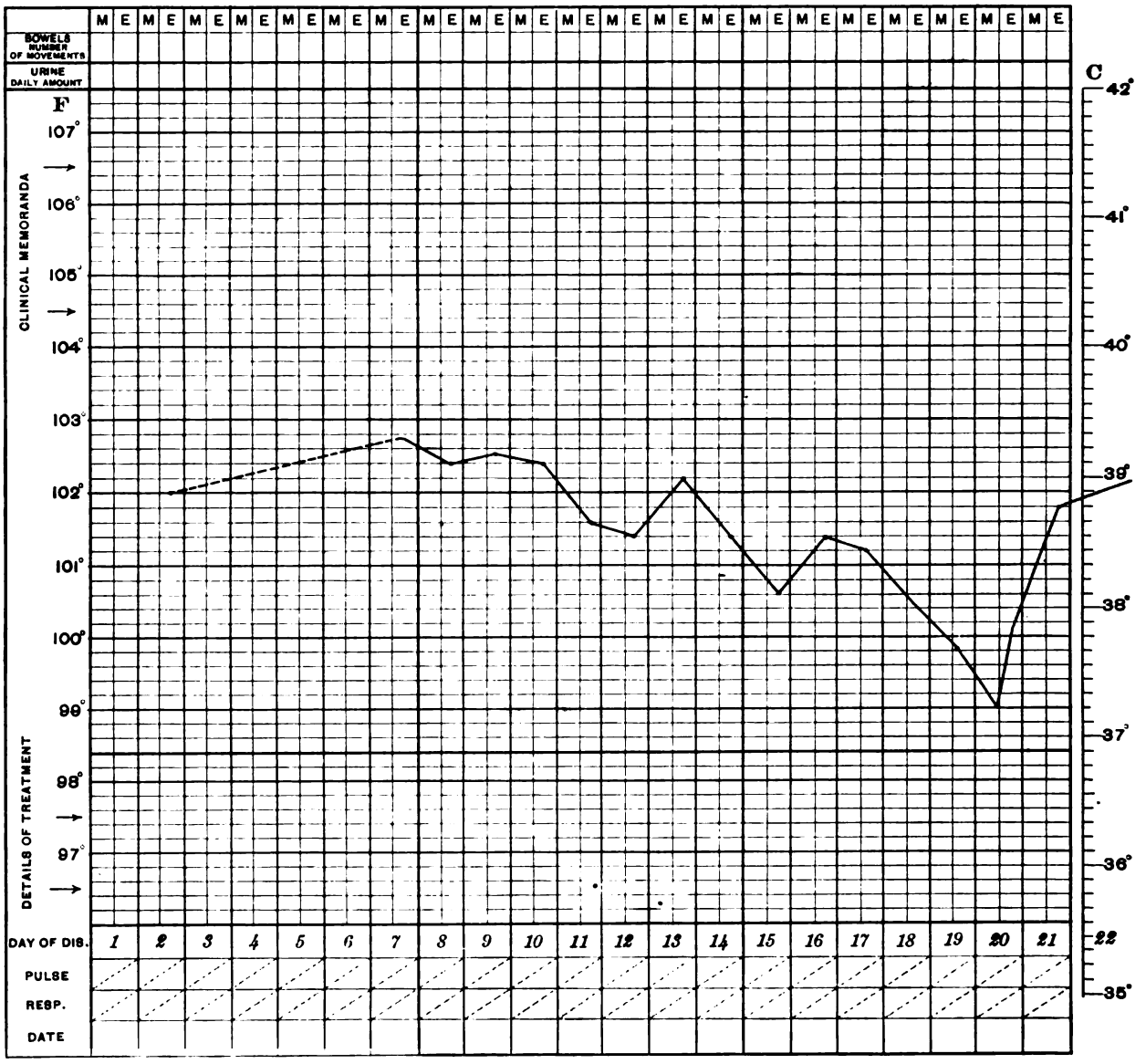
Epistaxis occurred to seven patients, *i.e.*, 20.5 per cent. of cases. One boy went into collapse after a bad midnight attack of nose-bleed. It was hemorrhage from the nose, instead of from the bowel, which nearly caused his death. Presumably it was due to nasal ulceration analogous to the more common intestinal ulceration. The tongue was found moist and coated except in those who had high temperature, or late in the illness, when secretions were often nearly suspended. In a few such the classical "beefy tongue" was shown. Sordes came a few times. Temperature ran high continuously in one case. In others it was irregular, being as high in the morning as in the evening. In a girl who relapsed, the temperature fell the first time by crisis, and after the

[1] Read before the Pediatric Section of the New York Academy of Medicine, December 13, 1894.

second series by lysis. Instead of type charts I have made a composite record of temperature. It does not show so high a range as typical cases are supposed to have. Headache was present as a rule. Mild delirium with senseless talking characterized a few cases, and coma vigil was present in the more severe ones. In two instances delirium was violent. A boy of eight years kept up piercing screams at night. As hypnotics had no effect, and as his skin was dry and covered by sudamina, I gave pilocarpin to induce perspiration. This may seem an odd remedy for enteric fever, but the screaming ceased when sweating began. Henoch mentions a similar case in which it was necessary to give chloroform several times. Great stupor characterized two cases.

fever after the fourteenth day is due to absorption through ulcers. Perhaps this temperature may be so explained, as there was no apparent complication to cause it. This is the boy who had varicella and boils.

K. D——, a girl eight years of age, was sleeping with her brother, aged nine years, when both were drenched by rain through a leaky ceiling. The family at first attributed the illness to this, though both were typical typhoids. The girl had eruption on the extremities, delirium, relapse, complete alopecia, etc. These children had been constant attendants on Case XVIII., which occurred thirty-two days before. This throws a little light on contagion and incubation. Where I was able to trace them, the second case usually followed twenty-eight or thirty days after the first case.



Complications.—Pneumonia happened in three cases, *i.e.*, ten per cent., but was not severe enough to especially modify the history. Varicella and boils or skin abscesses bade fair to exhaust one boy. Peritonitis and pericarditis each occurred once.

A few cases were of peculiar interest. A boy of nine began with vertigo and a temperature of 105° F. This fell gradually to 100.5° F. on the eighth day, when spots appeared. Four days later it reached 105° F., and remained between this and 104.5° F. for fourteen days, when it fell in thirty-six hours to normal. This happened without apparent cause on the thirtieth day of illness. The same evening the temperature returned to 103.5° F. and then declined by lysis. Garlock [1] says

[1] Transactions of the New York Medical Association, 1891.

Ashby and Wright say "no disease is more certain to spread in the houses of the poor than enteric fever," yet with our crowded tenements, containing ten or twenty families, it does not often become endemic. Bronchitis was common, but seemed to remain long in the congestive stage, free expectoration being rare. I did not observe enlarged spleen very constantly, though Earle found it in seventy per cent. of children. Alopecia occurred during convalescence as in adults.

My quartette of characteristic symptoms would be peculiar apathetic, unconcerned expression, fever rising gradually, rose spots, and perverted bowel action, usually diarrhœa. Any symptom may be absent without discrediting the diagnosis. We usually recognize the disease at once, as we would a photograph of an

old friend, without analyzing the features. Liebemeister says, "there is not a single symptom of typhoid fever which can be characterized as pathognomonic."

Differential Diagnosis.—Tubercular meningitis had to be differentiated sometimes. The irregular breathing and pulse, unsymmetrical or abnormal pupils, stupor rather than delirium, and convulsive movements, all differ from enteric fever. A few days of rising temperature and spots will make the diagnosis positive. Bronchitis and cough with few râles is suspicious with increasing fever. Pneumonia usually develops more rapidly than typhoid. Dulness on percussion of the lungs and the crepitant râle decide the case.

Simple diarrhœa and enteritis are not accompanied by fever. Unwise feeding will explain one case, while in this fever the diarrhœa comes on after ten days' illness with almost no eating. Enteritis is characterized by green stools and pain. Diarrhœa in enteric fever is painless. Other eruptive diseases are not liable to be mistaken. The bright-red spots are not larger than a pin's head. They are too small and too few to be confounded with measles or typhus. In variola, typhus, and measles, the eruptions all appear by the third or fourth day, instead of the eighth as in enteric fever. A microscopic examination of the blood would show plasmodii, if the case were malarial.

Treatment is Simple.—Enjoin quiet and fluid diet. Milk is the staple, but I allow all kinds of broths or strained soups. Lemonade and ice-cream are always agreeable to the very feverish.

Remedies.—Cold sponging with or without alcohol. I have not used "tubbing." Medicines are to be given symptomatically. Acetanalide or phenacetine only in extreme pyrexia. Dover's powder for restlessness and delirium. Turpentine or salol are my routine drugs for intestinal antisepsis. Camphor or strychnia when the heart seemed to need them. The less medicine the better.

Mortality.—A girl of twelve years died in stupor at the end of the fourth week. Though not under my care for the last few days, the result would probably have been the same. This death makes the mortality 2.95 per cent.

Although enteric fever in childhood is lightly spoken of, there are many autopsies reported. Henoch found intestinal ulcers in a girl aged three, who died in the third week of illness. He also records perforation during the fifth week in a boy aged eleven. Of 302 patients 21 died, *i.e.*, six per cent. In 11 of these Henoch found ulcers of Peyer's patches. Morrill reports 25 cases with twenty-five per cent. of deaths. One, a boy ten years of age, died of perforation. Reynolds, of Boston, reports a boy aged nine and a half, who died on the thirty-fourth day of perforation and peritonitis. Both books and journals abound in cases like the above.

While ulceration of Peyer's placques is characteristic, it must not be forgotten that tubercular ulcers occupy the same site. The latter are irregular in shape and extend around the gut along the blood-vessels. Tubercles and caseous masses lie in the floor and margins of the ulcers. Large spleen does not accompany tubercular ulcers. Follicular enteritis with ulceration is more generally distributed, and with a clinical history will not mislead one.

Whittaker[1] says "one should be slow in childhood to accept the diagnosis of typhoid fever. Most such cases are typhoid conditions of pneumonia, tuberculosis, etc." Meigs and Pepper said (1883) "that the mildness of the disease in childhood may be due to the glands of Peyer being less fully developed than in the adult."

These opinions are somewhat prevalent, but I think the statements erroneous.

Gray[2] says Peyer's patches appear at the sixth month of fœtal life. Minot[3] says "the intestinal glands begin to develop at the third month of fœtal life." Goundobine finds the anatomical distribution of Peyer's patches the same in the infant as in the adult. Kirke[1] states, "it is to be noted that they [*i.e.* Peyer's glands] are largest and most prominent in children and young persons."

Such definite assertions by an anatomist, a physiologist, and an embryologist, added to the many cases found by pathologists, lead us to reverse the general statement of some practitioners. If there be a difference between enteric fever of adults and children, it is not anatomical. Infants are not often exposed to the poison. When they come in direct contact with the germ, they are susceptible enough—*e.g.*, the Montclair epidemic, in which all the infantile cases were traced to infected milk; or the North Boston epidemic, due to infected well water.[2]

Of patients under three years of age I have recorded five, but only two of them in detail. By adding to these nearly all in the literature and records given me by friends, I am able to tabulate eighty-five cases, which should be enough to prove the existence of this disease in earliest life and give some data for comparisons. The youngest occurred at birth or before.

Bednar records a child aged five days, presenting typhoid symptoms and dying on the sixteenth day of illness. A perforation of the intestine was found near the ileo-cæcal valve. Jacobi records a case that died on the sixteenth day of life and sickness, who had large spleen and ulcerated intestine.

Ernst's case is specially noteworthy. The child was born of a mother suffering from enteric fever, and died on the fourth day. The spleen was enlarged, and cultures from it and the blood of the heart showed typhoid bacilli. The babe had a mottled rash on the lower part of the abdomen and lower extremities. This case is complete in etiology, appearance, morbid anatomy, and bacteriology.

Gerhardt goes farther back in reporting an eight-months fœtus born on the seventh day of the mother's fever. This infant had vomiting, roseola, diarrhœa, and large spleen, but recovered in thirty-eight days. Hestelius reports an eight-months fœtus with large spleen and usual intestinal lesions. Eberth has demonstrated typical typhoid bacilli in the organs of four fœtuses aborted by mothers having typhoid fever. Eight fœtuses from mothers not ill with typhoid did not show bacilli.

The report of Oakey is interesting in a negative way. A family of nine persons contracted fever from an infected well. One of them, a woman aged twenty-one, was delivered of a seven-months fœtus which showed no sign of disease. Both mother and infant lived.

Contagion is clearly established in 27 cases, the most interesting group being those of the Montclair epidemic last spring (1894). The 115 cases reported were traced to milk supplied by a dairyman in whose family there were cases of the fever. Eight infants known to have taken this milk developed the fever, and one of them died. The eruption is mentioned in twenty-one per cent. of the cases in the table, while in two it was said to be absent. Diarrhœa seems very common, being marked in nineteen cases, while in two constipation was bad. As only one-quarter of the cases are described in detail, it seems that diarrhœa is more common in infants than in older children, in whom constipation may prevail through the illness. Intestinal hemorrhage occurred in three infants, to one of whom it was fatal.

Mortality in Infants.—Of these 85 cases, 25 died, *i.e.*, 31.76 per cent., a greater mortality than at any other period of life. No doubt many infants have in reality died of enteric fever, though under some other diagnosis. Likewise cases have recovered under other names.

[1] Practice of Medicine, 1893.
[2] Anatomy, 1893.
[3] Human Embryology, 1892.

[1] Text-book of Physiology, 11th edition, 1886.
[2] See Flint in Transactions of the American Public Health Association, vol. i.

ENTERIC FEVER IN INFANTS UNDER THREE YEARS OF AGE.

Case	Authority.	Sex.	Age.	Origin, etc.	Symptoms, etc.	Result.	Autopsy.
1	Abercrombie, 1817.		6 mos.		Vomiting, diarrhœa.	Died 13th day.	"Patches inflamed, covered by minute ulcers, whitish, ash-colored, honeycombed."
2	Edinburgh Medical Journal, 1820, vol. xvi., p. 329.		7 mos.		Dry tongue, comatose.	Died 9th day.	Bowels healthy, except inflamed spots and ulcers as above.
3	Ibid.		3 yrs.			Died 21st day.	Irregular inflamed patches in ileum, fungus like, mesenteric glands greatly enlarged.
4	Charcellay, 1840 (Gerhardt Kinderkrankheiten).		8 days	Mother well.			Solitary follicles and Peyer's patches swollen and ulcerated.
5	Manzini, 1841, loc. cit.		7 mos.			Died.	Peritonitis with swollen and ulcerated glands bowel.
6	A. Jacobi, MEDICAL RECORD, 1870.		at birth	Lived opposite swampy lots. Mother not typhoid.	Fever, trifling diarrhœa.	Died 16th day.	Large spleen, ulcers of Peyer's patches.
7	Walker, British Medical Journal, vol. i., 1879. p. 347.		15 mos.	Mother ill one week later.	Child had eruption on 4th and 6th days. Erythema is mentioned, a clear case, diarrhœa, etc.	Recovered.	
8	Dr. Wiltshire, loc. cit., p. 427.		6 mos.	Artificially fed. Boy ill next door with same fever.	Well covered by eruption.		
9	Ibid.		6 mos.	Abortion.			
10	Murchinson, Trans. Path. Soc., 1864. (From Med. Chir. Rev., '58, vol. xxii., p. 161.)	Female	6 mos.	Mother ill of same. Youngest in 23 years at London Fever Hospital.			
11	Hennig.		3 mos.	No details.	Had pneumonia also.	Died.	Large spleen, swollen Peyer's patches.
12	Wünderlich.		2 mos.		Rash present.		
13	Freidrich.		6 mos.		Diarrhœa, cough, weak heart.	Died 6th day.	Hyperæmia lungs, spleen large, solitary, mesenteric, and Peyer's glands swollen.
14	Medico-Chir. Review, 1858.		7 mos.			2 died.	Autopsy confirmed the diagnosis.
15	Riliet, loc. cit.		7 mos.				
16	" loc. cit.		10 mos.				
17	" loc. cit.		13 mos.				
18	Editor Medico-Chir. Review.		19 mos.				
19	" " "	Male	2 yrs.				
20	Bednar, loc. cit.	Male	5 days	Mother died of "metritis"?	Vomiting, tympanites, large spleen.	Died 16th day.	Perforation intestine near ileo-cæcal valve.
21	" loc. cit.		11 days		Gangrene left axilla, large spleen.	Died.	Swelling and injection Peyer's patches.
22	" loc. cit.		15 days			Died.	
23	Bartlett, Fevers of United States.		2 yrs.				
24	Taupin, loc. cit.		7 mos.	Had 10 patients under 4 years in 121 cases.			
25	Moore, 1881, Trans. Path. Soc., London.		3 yrs.			Died.	Sloughing of intestines, no perforation. Youngest of 95 autopsies.
26	Robertson, Australian Medical Journal, 1882.		3 yrs.	Seven members of family also ill.	High temperature, diarrhœa, and bowels.	Recovered in 28 days.	
27	Dr. M. P. Jacobi, Arch. Med., 1884.		6 mos.		Spots 10th day, also had pneumonia.	Recovered.	
28	Okey, Peoria Medical Monthly, 1886-87.		2 yrs.	Nine of family ill. Infected clothes washed about a well in use.	A woman of this family, age 21, was prematurely delivered of a 7 months fœtus, which did not show typhoid. Both mother and infant lived.		
29	Farnham, Boston Med. and Surg. Jour., 1888, vol. cxviii.	Female	3 yrs.	Father also ill.	Temperature 104° F. first week, afterward 95.4° to 97° F. Had spots.	Recovered.	
30	Eichorst quotes Hastelin's "Blood Nutrition and Infectious Diseases," Wood & Co., 1886.		8 mos.	Fœtus still-born. Mother aborted while ill of enteric fever.		Died.	Enlarged spleen. Lymphoid enlargement of intestinal follicles and mesenteric glands.
31	Leroux, France Méd., Paris, 1889, vol. 1.	Female	11 mos.		Spots.	Recovered in 28 days.	
32	Fuller, London Lancet, 1891.	Female	9 mos.	This and following case ill at same time in house with a woman ill of enteric fever.	Diarrhœa, dry tongue, no spots. Occurred in August. Temperature 102°F. at onset.	Died 13th day.	Spleen not large. Intestine showed enlarged, softened, and breaking-down glands.
33	Fuller, loc. cit.		18 mos.			Recovered.	
34	Dr. Ogle, London Lancet, vol. i., 1892.	Female	4½ mos.	Was fed condensed milk.	Ill Sept. 11th to 17th. Marked rickets. Died on way to hospital.	Died.	Typical intestinal lesions. Spleen large and soft, ragged ulcers in intestines, but no perforation.
35	Henoch in Diseases of Children, Sydenham Soc. Trans., 1889.	Female	3 yrs.			Died 21st day.	Numerous ulcers in intestine, Peyer's patches large, no cicatrices.
36	Ibid.	Male	3 yrs.		Recovered in 10 days, but died 10 days later of croup.		
37	Ibid.	Female	2 yrs. 6 mo.		Ill 7 weeks. Died 7th day of relapse.	Died.	Two ulcers down to muscularis.
38	Ibid.		6 mos.		With all symptoms, including temperature curve.	Recovered.	
39	Ibid.		7 mos.		With all symptoms.	Recovered.	
40	Ibid.	Male	3 yrs.		Temperature on 7th day 104° F. A.M., 106.2° F. P.M. Temperature fell next day to 98.1° F. with no subsequent rise.		
41	Dr. England, Canada Medical Record, 1890, vol. xix.		8 mos.	Hand fed.	Large spleen, diarrhœa, spots, tympanites, high fever.	Recov. in 3 weeks.	
42	H. N. Read. Brooklyn Medical Journal. 1889.		4½ mos.			Died 17th day.	Only death in 22 cases under 10 years of age.
43	Ibid.	Male	2½ yrs.		Highest temperature 105° F.	Recov'd in 30 days.	
44	Ibid.	Male	3 yrs.		" " 106° F.	Recov'd in 28 days.	
45	Ibid.	Female	18 mos.		" " 105.5° F.	Recov'd in 28 days.	
46	Ibid.	Male	3 yrs.		" " 103° F.	Recov'd in 17 days.	
	Keating's Cyclopædia of Diseases of Children.						
47	Rerhem.		14 mos.				
48	Archambault, Gaz. Méd. de Paris, 1880.		21 mos.	Mentions 9 cases between 2 and 4 years of age in total of 164 cases.			
49	Stephens, Keating's Cyclop.		12 mos.	Mentions 28 between 3 and 6 years of age in a total of 63 cases.			
50	Parrott, loc. cit.		3 yrs.		Died of intestinal hemorrhage.	Died.	

ENTERIC FEVER IN INFANTS UNDER THREE YEARS OF AGE—(*Continued*).

Case.	Authority.	Sex.	Age.	Origin, etc.	Symptoms, etc.	Result.	Autopsy.
51	J. W. Long in Arch. Pediat., vol. x.	Male	12 mos.	Eight others ill in same family.	Characteristic fever, tongue red at tip, mild bronchitis, constipation, marked tympanites, slight diarrhœa.	Recovered.	
52	Christopher, Arch. Pediat., 1892, vol. ix., p. 757.	Female	5 mos.	.....	Tarry stools on 9th day.		
53	Bricheteau (Gerhardt Kinderkrankheiten).	.....	10 mos.				
54	Löschner, loc. cit.	.....	10 mos.				
55	Hanner, loc. cit.	.....	2 mos.				
56	Ibid.	.....	7 mos.				
57	Hecker, loc. cit.	.....	13 days	Was in a room that had been occupied by typhoid patient.	Diarrhœa 3d day.	Died.	Spleen not large; usual swelling and ulceration.
58	Schädler, loc. cit.	.....	7 mos.	Mother ill of same.	Restless, vomiting, diarrhœa, fever.	Died 11th day.	Large spleen; intestines as above.
59	Herard, loc. cit.	.....	7 mos.	Brother had typhoid.	Vomiting, fever. Died in convulsions on 6th day.	Died 6th day.	Typhoid infiltration and ulceration. Large and softened spleen.
60	Gerhardt, loc. cit.	.....	8 mos., fœtus.	Abortion on 7th day of mother's illness. Typhoid.	Vomiting, diarrhœa, roseola, large spleen. Temperature 37.6° Celsius.	Recov'd in 38 days.	
61	Huber, Arch. Pediat., 1892, vol. ix., p. 763.	.....	18 mos.	Five others ill in family.			
62	Ibid.	.....	18 mos.	Details not given.			
63	Earle, Arch. Ped., vol. ix., p. 745, 1892.	Male	5 mos.	.....	Diarrhœa and fever.	Died 30th day.	Reddish fluid in peritoneal cavity. Mesenteric glands swollen, firm, yellowish-gray in color. Peyer's patches elevated, slightly ulcerated; no bacilli found.
64	Northrup, Arch. Pediat., vol. xi., p. 57.	.....	2 yrs.	Mother ill same (in Presbyterian Hospital).			
65	Reeves, Trans. Assoc. Am. Physic., 1890.	.....	18 mos.	Mother ill at same time.			
66	P. Ernst, Sarjou's Annual, 1891.	.....	at birth	Mother had typhoid at the time.	Babe jaundiced, covered by a mottled exanthematous rash on lower extremities and lower part of abdomen.	Died 4th day.	Spleen enlarged. Cultures from spleen and blood of heart gave typhoid bacilli.
67	Ashby, London Pract., 1891, vol. xxvi.	.....	3 yrs.	Two other cases in the family.	(Spots in 78 per cent. of cases.)	Recovered.	
68	Ibid. Reported to author. Not published before.	.....	3 yrs.	.....	.....	Died 8th day.	Ulcers of larynx as well as intestine.
69	Dr. E Le Fevre.	.....	22 mos.	Other cases in family.	Hemorrhage on 28th day.	Recovered.	
70	Ibid.	.....	2 yrs. 5 mos.	Ibid.	Had spots.	Recovered.	
71	Dr. Geo. McNaughton, Brooklyn.	Male	2 yrs.	(?)	Temperature 103° F. not exceeded. Constipated, eruption fairly profuse, no hemorrhage.	Recov'd in 3 weeks.	
72	Dr. Rupp.	Female	13 mos.	Not known. Nursed by careful well mother.	Headache from onset, with meningeal symptoms. Temperature rose to 103° F. on 6th day, ranging from that to 105½° F. several days. Eruption 6th to 11th day, diarrhœa, large spleen. Temperature fell gradually, and with it diarrhœa ceased.	Recov'd in 19 days.	
	Cases under 3 years in the Montclair epidemic of 1894. Notes sent me by Dr. R. C. Newton:			Of 115 cases in town, 8 occurred in infants 3 years or under who were fed on the infected milk.			
73	Dr. Newton.	Male	11 mos.	Same family.	Aphthous sore mouth, spots, diarrhœa, and tympanites.	Recov'd in 16 days.	
74	Dr. Newton.	Female	2½ yrs.	Same family.	No diarrhœa, spots marked, tympanites. Temp. 103° F.	Recov'd in 1 week (?)	
75	Dr. Smith.	Female	3 yrs.	.....	Diarrhœa, rash, sudamina. All symptoms.	Recov'd in 14 days.	
76	Dr. Wilson.	.....	2½ yrs.	.....	Eruption. Mild case.	Recov'd in 14 days.	
77	Dr. Whitehorne.	Male	12 mos.	Fed milk and barley-water.	Erythema at onset. Rose rash 13th day. Highest temperature 105° F.	Died 22d day of convulsions and collapse.	
78	Dr. Shelton.	Male	3 yrs.	Drinking infected milk once or twice.	Mild symptoms.	Recov'd in 4 weeks.	
79	Dr. Brown.	Female	18 mos.	.....	Eruption present.	Recov'd in 21 days.	
80	Dr. W. B. Noyes quotes Dr. Brown, and gives notes of same cases as Dr. Newton above, MEDICAL RECORD, vol. xlvi.	Female	3 yrs.	Sister of case above.	Constipated, no rash, tympanites, marked nervous symptoms.	Recov'd in 28 days.	
	Author's cases.						
81	.....	Female	9 mos.				
82	.....	Male	3 yrs.				
83	.....	.....	2 yrs.	Child 2 years brought to the College, but subsequent history unknown.	Temperature 103° F. Sudamina, etc.		
84	.....	Female	12 mos.	Father and mother ill at same time.	Dry cough, fever, diarrhœa.	Recov'd in 10 days.	
85	.....	Female	17 mos.	Mother has enteric fever.	Marked stupor. Temperature 105° F. Well in 3½ weeks, when relapsed.		

The figures given may be considered representative, as the cases occurred in all lands, are from hospital and private practice in city and country, and are both epidemic and endemic.

Conclusions.—1. The disease is common in childhood and not more rare in infancy than is explained by lack of exposure. 2. The types and varieties do not differ materially from those of adults. 3. The duration is shorter because the tendencies in childhood are more toward growth and repair than in the adult, whose nutritive functions are all employed in repair alone. 4. The prognosis is best in children because they usually have healthy organs to fight the invader, and so have few complications. 5. In infants the mortality is

CASE I.—Admitted April 19th. Has had three children, last one eighteen months ago. Has been nursing this child up to date and has not menstruated since its birth. About April 10th she began to have severe bearing-down pains in hypogastric region, constant and grinding in character, with backache and additional pains in the left iliac region. She began at the same time to pass blood from the vagina, and thought she was menstruating. This continued for about a week, when the pain became more severe and she began to pass blood in large clots. She finally became alarmed and walked to the hospital nine days after the onset of the symptoms.

Examination by vagina showed a soft, doughy mass in the right fornix, slightly movable with the uterus and seemingly adherent to its right corner.

On the day after admission flowing stopped and pain diminished somewhat. The patient was kept in bed and watched carefully for four days. Temperature was normal, pulse fairly good, no visible hemorrhage, and pain continued to diminish. The mass in the pelvis seemed to be increasing in size, however, and on April 23d she was operated upon.

A mass was found on the right side about the size of an orange. It was closely adherent to the uterus and to the pelvic wall, and proved to be a hæmatoma in the broad ligament covering a rupture in the Fallopian tube. The blood in the tumor was black and thickly clotted, and the tube was filled with the same material. The mass with the tube and ovary were removed. The appendages of the opposite side were normal and were not disturbed.

The sac having been ruptured during its removal, the abdominal cavity was irrigated with water at 112° F., and a Wylie glass drainage-tube inserted around which the wound was closed.

On the day following operation the patient developed œdema of the lungs from some unknown cause, and was in a very precarious condition for nearly twenty-four hours. She finally rallied and recovered without further interruption. Discharged May 23d.

CASE II.—Admitted June 29th. Dates her trouble from birth of child six years ago. Since that time has had severe sharp pains during menstruation over hypogastric and both iliac regions, and extending down the thighs. Menstruation has been regular and can get no history indicating pregnancy at any time during the last six years. Patient is anæmic and emaciated, and runs an irregular temperature between 99° and 101° F.

Operation, July 5th. The omentum was found directly under the abdominal incision, was adherent to the intestines and to the fundus of the uterus, and was very soft. It was freed from its adhesions and its bleeding points ligated with silk. The pelvis was then found to be filled by uterus, appendages, and small intestine, all matted together by a thick hemorrhagic exudate, which had become partly organized and was very firm. The tubes and ovaries were separated from the mass with great difficulty, and removed. The left ovary was cystic, and the tube the seat of an ordinary pyosalpinx. The right tube was distended to about the size of an egg, with the same hemorrhagic material which formed the adhesions in the pelvis. There was no rupture of the tube and its fimbriated extremity was occluded. All the adhesions were then broken up and the greater part of the exudate removed, being torn away in large flakes. Irrigation and drainage were used as in Case I.

Patient gained flesh and strength very rapidly, and was discharged four weeks after operation, well nourished and with good color.

Case I. was undoubtedly a tubal pregnancy with rupture of the tube and hemorrhage into the broad ligament.

In Case II. there had evidently been a hemorrhage from the free end of the Fallopian tube into the peritoneal cavity, with subsequent closure of the tube, but the history gives us no light as to its cause. It may have been a tubal pregnancy also.

CASE III.—The origin of the infection in this case is obscure. I believe the history to be reliable.

The patient has never skipped a menstrual period, and has never had any symptom of vaginitis. Menstruation has always been regular as to periodicity, duration, and amount of flow, and has never been preceded, accompanied, or followed by pain. Ten days before admission, and two weeks after her last menstruation, she took a large dose of Epsom salts. This was followed by a large number of movements, and a vaginal discharge similar to the menstrual flow which continued for a week. Then there came a severe flooding, the patient losing so much blood that she fainted. She was brought to the hospital two days later, having in the meantime developed severe sharp pain with slight tenderness in the lower regions of the abdomen, more severe in the left iliac. The bleeding was not alarming, and was controlled by hot douches, cannabis indica, and rest in bed. Examination revealed a sensitive mass on each side of the movable uterus.

The pain and tenderness remained about the same, and the temperature ranged between 99° and 102° F., during the three days she was kept under observation.

On June 16th the abdomen was opened. The pelvis was found to be shut off by fresh adhesions, which were easily broken up. There was a small amount of free pus in the bottom of the pelvis which had evidently escaped from the right Fallopian tube. This tube was distended with pus and its fimbriated extremity not entirely occluded. It was clasped with forceps to prevent further leakage, and the tube and its ovary, which was also purulent, removed.

The left tube was even more distended with pus than the right, but was occluded. The ovary contained several small cysts and was removed with the tube. Irrigation and the glass drainage-tube were used as in the previous cases.

After twelve hours, at 1 A.M., June 17th, the drainage-tube was removed. At 9 A.M. the temperature had gone up to 102.4° F., and a smaller glass tube was inserted. Temperature then fell gradually and became normal on the 19th. A slight amount of sero-purulent material continued to drain through the tube, and it was replaced by a rubber one, which was gradually shortened, and removed entirely on June 28th. The wound healed rapidly, and patient was discharged August 3d, after being up and about the ward for two weeks.

CASE IV.—Admitted April 30th. Has had one child eighteen months ago. No miscarriages. No history of vaginitis. Symptoms began one month ago. Patient took a cold bath while menstruating and caught a severe cold. Had no effect on duration of menstruation, nor on amount of flow, but directly after bath began to suffer with severe sharp pains in both iliac regions, associated with general abdominal tenderness. These symptoms have continued and confined the patient to her bed ever since. Has had some vesical tenesmus. Bowels regular. Temperature, pulse, and respirations normal.

Examination showed a fixed uterus with firm masses on either side bound down by adhesions. Condition remained the same until operation, May 7th.

On opening the abdomen a considerable amount of clear serous fluid welled up from the general peritoneal cavity. The cavity of the pelvis was completely filled with one mass of adhesions. The coils of intestine were bound to each other and to the bladder, uterus, and tubes. The uterus was also adherent to the bladder. The adhesions were very firm and had evidently begun to form at a period considerably antedating the beginning of the symptoms. After considerable difficulty they were broken up without damage to the intestines. The tube and ovary of each side were freed, tied off, and removed. The tubes were distended with pus and there was pus in each of the ovaries. One of

the tubes was ruptured during the manipulations, and a small amount of pus escaped into the peritoneal cavity.

Irrigation and a drainage-tube were used in this case also, the tube being removed after eighteen hours. Patient's highest temperature after operation was 99.3° F., on the evening of the day following. Discharged June 9th.

A sketch of the after-treatment in these cases may be of interest.

The patients, on being removed from the table, were put in bed with hot-water bottles in the usual way. If stimulation was thought necessary they were given an enema, immediately after the operation, of :

Beef peptones	℥ ss.
Brandy	℥ ss.
Salt	ʒ j.
Water	ad ℥ iv.

In extreme cases, tincture of digitalis, ♏x.–xv., was added. If subsequent stimulation was needed, it was given in the same way, the frequency of repetition and the amount of brandy and digitalis being regulated according to the case. Occasionally strychnine sulphate, $\frac{1}{30}$ to $\frac{1}{15}$ grain, was given hypodermically in addition; or, if the enemas were not retained, the brandy or digitalis or strychnine, or all three, were given hypodermically. In most of the cases no stimulation was required. Very rarely it was necessary to give opium. When necessary, ♏x. to xv. of the deodorized tincture were combined with the enema. None was ever given after the first twelve hours.

As soon as the gastric irritation had sufficiently subsided, usually in from six to eight hours, hot water was given by mouth, beginning with ʒ ij. every half-hour. The amount was gradually increased up to ℥ j., when ice-water, Vichy, carbonic, or cracked ice was substituted, or the hot water continued if the patient preferred it. The amount of these was gradually increased to ℥ ij., and given then every hour. This process usually extended over about eight hours, or until the stomach would bear milk and lime-water. This was given at first in ℥ ss. doses every half-hour. The amount was gradually increased and the interval lengthened, so that by the night of the day following operation they took ℥ iv., vi., or viii., every two, three, or four hours, as seemed best, with any of the other fluids mentioned in small amounts, p.r.n. If vomiting occurred, everything was stopped for one hour, and another beginning made on hot water. In some cases kumyss, beef-tea, or chicken-broth with the fat carefully removed, were substituted for the milk.

The fluid diet was continued until the bowels were moved, on the morning of the third day. The first solid food was dry toast and a boiled egg. After making sure that the bowels would act properly, the diet was rapidly extended, and by the end of a week or ten days was practically unrestricted.

In the majority of the cases, on the morning of the third day, Epsom salts and Seidlitz powder, āā ℥ ss., was given in one dose, or the same amount in four doses, a half-hour apart. In cases where the breaking up of adhesions left a very extensive raw surface, the bowels were moved on the second day. Not infrequently the cathartic had to be repeated or a turpentine enema given. The bowels were then moved every day.

Any tympanites or colicky pains which occurred before the bowels were moved were usually relieved by the rectal tube.

The dressing of the wounds required very little attention. When no drainage-tube was used the original dressing was, as a rule, not disturbed until the stitches were removed. When a tube was used a fresh dressing was applied on its removal, and left until the removal of the stitches. In all but three of the cases the union was by primary intention. In each of these three a drainage-tube was left in place for more than three days, and left a sinus which healed from the bottom by granulation.

The drainage-tubes were exhausted by means of a glass syringe with a rubber tube attached small enough to go inside the drainage-tube easily, and long enough to reach to its bottom. The dressings were so applied that the tube was covered by a piece of bichloride gauze which could be removed without disturbing the rest of the dressing. The tube was exhausted every half-hour for about two hours, and the intervals then lengthened according to the amount of fluid obtained. Each time the amount was measured and its character noted. In most of the cases I was able to take out the tube in from eight to twelve hours. The sucker was always boiled each time before using, and every precaution taken not to introduce sepsis with it. The stitches were, as a rule, removed on the tenth day.

The patients were kept in bed for three weeks, and then, after being about the ward for a week, were discharged.

The most constant difficulty experienced in the after-treatment was in moving the bowels, and its importance is testified to by the fact that after the bowels were opened any tympanites or elevation of temperature that may have been present before subsided, and the patients invariably became comfortable, and progressed rapidly to recovery. Obstinate vomiting occurred in a few cases, but was overcome by giving the stomach complete rest (for two days in the worst case) and feeding by rectum.

58 Pleasant Street.

Progress of Medical Science.

Tongue Traction.—Laborde reports a new and striking case of the value of his method of lingual traction. A child, born apparently dead (with the aid of forceps), was treated for ten minutes by rhythmic traction of the tongue, with complete success. The doctor was then obliged to turn his attention to the mother. Returning to the child, it was again apparently dead. All the usual methods of resuscitation were tried—artificial respiration, friction, etc.—without avail. Rhythmic traction of the tongue restored it in six minutes. Tarnier, in commenting on the case, considered the method more generally applicable than insufflation.—*Semaine Médicale*, December 5, 1894.

Neurasthenia in a Boy.—Levillain reports a case of neurasthenia, of the Beard-Charcot type, in a boy of twelve years, following severe and persistent headache. On examining the patient's head a depression was found on the left parietal bone, 8 mm. deep, 5 mm. broad, and 9 mm. long. As the headache was almost uninterrupted, while the other symptoms yielded to treatment, and was accompanied with insomnia and vertigo, the depressed portion of the bone was elevated; no lesion of either meninges or cortex was discovered. Complete cure followed in fifteen days, both local and general symptoms disappearing.—*Journal de Médecine de Paris*, December 2, 1894.

Ovariotomy During Pregnancy.—Before the session of the Vienna Medical Society held on November 23d, a patient with the following history was presented by Dr. Lotheisen: A peasant woman, aged forty-four, complained of constipation for two years, and obstipation for three weeks. She was referred to Professor Gussenbauer for operation for intestinal occlusion. A tumor of the size of a fist was felt per rectum at the upper level of the sacrum; the uterus was enlarged and reached above the symphysis. At the operation the uterine tumor was found to be a pregnancy; the left ovary was much enlarged and twisted on its pedicle, so that it lay behind the sigmoid flexure; the right ovary

was cystic. Both ovaries were removed. Shortly after the operation defecation occurred without assistance, and the course of the pregnancy was uninterrupted and normal. The left ovary was found to be carcinomatous, the right was cystic, and contained the corpus luteum.—*Wiener klinische Wochenschrift*, November 29, 1894.

The Adrenals and Intestinal Peristalsis.—Pal reports an interesting series of experiments in extirpation of the adrenal bodies, tending to refute Jacobi's position that in them may be found the inhibitory centre for the intestinal peristaltic movements. Pal concludes that the adrenals have no special importance for the life of the animal, even in dogs; that they cannot be regarded as inhibition centres for peristalsis; and that the only immediate effect of their extirpation is a severe disturbance of nutrition, which, however, the animal is capable of surviving.—*Wiener klinische Wochenscrift*, November 29, 1894.

Polarization of Saccharine Urine.—Pansini has an important paper on urine polarization, based on two hundred and thirty specimens obtained from Senator's clinic. Urine containing albumin or sugar is lævogyrate in proportion to the amount of the abnormal ingredient. The greatest rotation to the right was obtained in a specimen from a case of icterus. Apart from diabetic and albuminous urine, the rotation has no constant proportion to the elements contained, but the author thinks that by this method we can recognize minute quantities of albumin or sugar more readily than by chemical tests.—*Berliner klinische Wochenschrift*, December 3, 1894.

Gastroplication.—Under this name, Dr. Joseph Brand has recently described a new operative procedure for the treatment of gastric dilatation. Although devised as long ago as 1889, it was not until February of this year that he had an opportunity of putting it into practical execution. Gastric dilatation is usually due to some form of stenosis at the pyloric orifice, either resulting from new growths, cicatricial tissues, or adhesions, and the aim of surgical procedures has been the removal of the cause of the obstruction. Much has been accomplished in this direction by the exsection of the cicatricial tissue or by resection of the pylorus, and the surgeon can point with pride to the successful results obtained in many of these cases by operative means. There are some cases of gastrectasia, however, in which, after all medical treatment has been exhausted and laparotomy has been resorted to, none of the above lesions can be discovered, and the operator is obliged to close the abdomen without having made an effort to relieve the dilatation. It is for this class of patients that Dr. Brand recommends his operation, which has for its object the diminution of the size of the stomach by the formation of a fold and suture of its peritoneal and muscular layers. This procedure has been successfully performed in the case of a female patient suffering from extreme dilatation of the stomach, according to the following technique: The abdomen was opened by an incision eight centimetres in length and parallel with the border of the ribs on the left side. The stomach was then sought for, eventrated by slow traction, and the pyloric region carefully examined. No tumor, cicatricial deposit, or adhesions could be discovered at this place, but a distinct flexion had resulted in consequence of the sagging down of the greater curvature. The anterior stomach-wall was then folded inward and sutured in a transverse direction, and to the right and left of the transverse fold a longitudinal fold was formed in like manner. The same proceeding was carried out on the posterior gastric wall, which was rendered accessible by making several slits through the great omentum, through which the organ was drawn. It was found easy to lift the muscular and peritoneal layers from the mucous membrane, which could be felt as a thick seam. Over two hundred sutures of catgut and silk were inserted, and the stomach was then returned to the abdominal cavity. Aside from the wounding of an arterial twig of the arcus vasculosis during the insertion of sutures in the posterior gastric wall, no accidents were encountered during the operation, which was followed by a most rapid recovery.—*International Journal of Surgery.*

Differential Diagnosis between Pulmonary Syphilis and Pulmonary Tuberculosis.—Dr. Rendu, at a recent clinical lecture, presented an old woman who had for a long time been emaciated and cachectic, but without fever (*The British Medical Journal*). The symptoms were ill-defined: some pain, stiffness of the limbs, without marked weakness or paræsthesiæ, dyspnœa on exertion, and for a short time a dry cough without expectoration. The respiratory and auscultatory phenomena were found normal anteriorly, but behind there was dulness over the right apex, with roughened, prolonged expiration. There was a loud, rough, systolic murmur, together with a softer and more superficial one, but no symptom of cardiac insufficiency. The arteries were apparently healthy, the liver normal in size, and there was no albuminuria. There was a diffuse and characteristic syphilitic melanodermia, and iritis of two years' standing, nocturnal bone pains, and headache. Her only previous illness had been measles. It was pointed out that against tuberculosis was (1) the long duration, (2) the absence of expectoration, of râles, and of concomitant symptoms. Syphilis does not usually attack the apices, although cases of this occurrence are recorded. Syphilis and tuberculosis may occur in association, and tuberculosis may attack a lung previously syphilitic. From the absence of a history of acute pneumonia an indurating pneumonia could here be excluded. The attack of measles was not considered an adequate cause. As there were no other etiological factors, the changes in the heart and lungs were probably syphilitic. Great improvement followed the exhibition of mercury and iodide of potassium.

Examination of Internal Organs.—Dr. Bendersky discusses his method of auscultatory percussion as applied to determine the limits of the thoracic and abdominal organs. He says that in respect to the stomach it gives the best results. A soft stethoscope is placed over the organ to be examined. When the lower limit of the stomach is reached, the percussion note is either but faintly or not at all heard. Lower the note of the colon can be made out, and it is said that it is possible to ascertain the width of the transverse colon, and thus to recognize when it is dilated. The upper limit of the stomach can only be relatively determined. In some cases the boundaries found for the liver and spleen have been ascertained to be correct after death. Fluid in the abdomen has been found to extend one and a half to two fingers' breadth higher than was indicated by ordinary percussion, and in the same way the cardiac dulness has been made out to be larger. Renal percussion may also thus give more accurate results. The author concludes that the boundaries, especially of the abdominal organs, and particularly of the stomach and parts of the intestine, can thus be satisfactorily ascertained. The method is specially useful if the observer be slightly deaf. The number of cases in which gastric dilatation has been incorrectly diagnosed will be diminished by this method of examination. The author describes and figures a collective stethoscope capable of being used by a number of observers at the same time.—*Wiener medizinische Wochenschrift.*

Diagnosis of Pyloric Tumors.—Dr. Rosenheim refers to the restoration of the motor (but not chemical) functions of the stomach after pylorectomy, and he illustrates it from two cases operated on by Hahn three and

a half years and three months ago respectively (*British Medical Journal*). In the diagnosis the symptoms due to pyloric obstruction are noted. Rare tumors not directly at the orifice may cause obstruction by spasm. Palpation will decide the position. The tumor may be displaced to the right, more often to the right and downward, but sometimes to the right and upward. The author quotes another of his cases in which Hahn found an hour-glass contraction due to malignant disease. Gastro-enterostomy was performed. The author then discusses at some length the question of adhesions to the liver and pancreas as shown by the movement of the tumor. This is obviously a most important matter in the question of operative treatment. Tumors of the stomach, intestine, and omentum can often be prevented from ascending during expiration if they are fixed with the hand at the height of inspiration. The author, however, cites a case in which this movement could not be arrested, and yet at the operation by Hahn no adhesions to the liver were found. There were adhesions to the pancreas, and gastro-jejunostomy was performed. If the movement of the tumor upward is very free, the latter may disappear behind the liver edge. Examination should be made in the knee-elbow position. Pyloric tumors move to some extent with the liver when they have been developed in a normally placed organ. They can be more readily diagnosed in women, in whom displacement of the stomach occurs more frequently. Often the presence of a tumor is not necessary for diagnosis. In one case a tumor could not be felt even under the anæsthetic, yet a malignant ulcerating surface the size of a two-mark piece was found at the operation. The patient died of hemorrhage from a stitch-hole in the stomach. The author thinks that, although palliative treatment can improve the condition of the patient, yet in future operative treatment will be the chief one in the majority of these cases.

Sparteine in Chloroformization.—In a communication to the Société de Biologie, P. Langlois and Maurauge call attention to the fact that sparteine, associated with morphine, is a powerful stimulant to the heart during chloroformization. The authors first experimented upon rabbits and dogs. Chloroform was administered to these animals while under the influence of sparteine, and although the anæsthetic caused an arrest of respiration, the heart, disturbed at first, rapidly resumed its normal rhythm. On the sparteinized dog, the arterial pressure remained high even during a profound chloroform narcosis. Sparteine was then tried in the human being. A dose of from 3 to 4 centigrammes (½ to ¾ grain), associated with 1 centigramme (⅙ grain) of morphine, was injected hypodermically fifteen minutes before the administration of chloroform in various long surgical operations like laparotomy, hernia, etc. In one hundred and twenty observations made, the heart continued to act strongly and in a perfectly regular manner during the chloroform narcosis.—*Therapeutic Gazette.*

Diver's Palsy.—Dr. Sharples has given a clinical account of this condition and an anatomical description of the changes found in the cord of a patient. The patient was a man who had for some years intermittently followed the occupation of a diver in deep water. For two weeks before the onset of his illness he had been diving to the depth of over two hundred feet, often remaining half an hour under water. He used the ordinary diving dress and helmet. On April 26, 1893, he dived for the fifth time, and returned to the surface sooner than usual. As soon as his helmet was removed he complained of sharp pains in his arms and legs, and almost at once became unconscious. He remained so for an hour and a half. On regaining consciousness he complained of shooting pains in his arms and fingers, which were aggravated by movement. Motor power in the arms and legs was completely abolished; sensory power was impaired in the arms and absent in the legs. The sensory impairment extended as high as the neck. The bladder and rectum were both paralyzed. In about two weeks mucous râles were audible in the chest on both sides, and there was dulness over the bases of the lungs. Bedsores also began to form, cystitis was now present, and the rectum remained paralyzed. No knee-jerk was found on either side. The condition of the patient gradually became worse and the paralysis did not improve. He finally died with a high temperature, the result, doubtless, of septic absorption from his extensive bedsores. The necropsy was made thirty-six hours after death, and the cord was found to be very soft and in parts almost diffluent. After hardening and staining, changes were found, chiefly in the cervical and dorsal regions, the lumbar region being apparently normal; they consisted of softening in the posterior column and also in the lateral. Similar changes were found in the dorsal region, but were much less extensive. The conditions found were apparently the result of softening and inflammatory changes, presumably secondary to hemorrhage occurring at the time of onset; but it certainly is curious that no definite trace of such hemorrhage was found, and especially that there should have been no change in the lumbar region with such paralytic symptoms as were present.

Dysphemia.—This is the name proposed for stammering by Dr. C. F. Coxwell in the *Intercolonial Quarterly Journal of Medicine and Surgery.* The author points out that stammering is the result of some interference with the oral or laryngeal mechanism of speech and a consequent want of correspondence between them. He regards it as largely a spasmodic affection, the result of inhibition, which leaves the liberating element temporarily unopposed, and so gives rise to spasm. On the other hand, inhibition of the liberating element may cause temporary paralysis. In the next few pages are embodied a description of the relation of the related cerebral centres—speech and auditory—and an account of the gradual development of their functions. He next proceeds to discuss the theoretical question of local control over discharge of energy in nerve-centres, and considers the question of the existence of a general inhibitory centre and the nature of neuroses generally. Dysphemia is then considered with reference to these theoretical considerations, and an explanation offered of its phenomena. In conclusion, there is a succinct and practical account of the various measures necessary for its successful treatment.

Argon.—A communication to the Royal Society, London, Eng., by Lord Rayleigh, formerly professor of physics at Cambridge, and Professor Ramsey, who holds the chair of chemistry in the University College, London, gives certain definite information concerning the new element in the atmosphere which they have discovered. A few years ago, Lord Rayleigh found that nitrogen obtained from air is heavier than that obtained from chemical substances. This led to a series of patient experiments and the final isolation of a hitherto unrecognized constituent of air, which has been named argon, from two Greek words signifying "no work." Its name explains its position, which is one of inactivity. To Professor Ira Remsen, proof-sheets of these communications were forwarded and became the subject of a talk at the Johns Hopkins University, which was listened to by professors, students, and others interested in science. Taking the sum total of evidence into consideration, Crookes's conclusions in regard to its spectroscopic analysis and Olszewski's experiments in liquefaction, Professor Remsen affirms that the balance of evidence seems to point to the conclusion that argon is an element.

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INSTRUCTION IN MILITARY MEDICINE.

THE experience of the Civil War demonstrated the necessity of a general dissemination of a knowledge of military matters among the people. Our standing army is, and always will be, a small one, and the safety of the country in the case of war, which is always a possible event that must be provided for, will lie in the large body of young men who have received at least the rudiments of a military education in the schools, or who have had a practical training in the National Guard. There is still, however, one department, and a most essential one, which has been overlooked in this scheme of national defence, namely, the medical department. The medical staff of the army, especially since it has been reduced by a penny-wise Congress, is insufficient for the needs of the service even in times of peace, and in case of war its ranks would have to be drawn from practitioners in civil life. But every one who has any conception of the many peculiar duties of the army surgeon knows that no physician in civil life is fully equipped to perform those of a military medical officer.

In a lecture delivered last autumn at the Harvard Medical School, Dr. John Van R. Hoff, of the United States Army, dwells upon the duties of the military surgeon, and shows how necessary to their intelligent performance is a special training. This training, he contends, should be given in the medical schools, and he appeals to the faculties to introduce into the curricula of the schools a systematic course in military sanitation. He holds that war sooner or later is inevitable, and that it is the part of patriotism to be ready for it when it comes.

There can be no doubt of the desirability of having a reserve force of military medical officers scattered throughout the country, but we question the advisability of adding to the already exhausting labors of our students. The standard of medical education is being constantly raised, and each year new subjects of great importance, if not of absolute necessity, to the future physician are being added to the curriculum, and until the term of study is greatly lengthened there will be little time for instruction in details of military practice, which in all probability the physician would never be called upon to undertake. We already have a sort of training-school in the medical department of the National Guard, and now that a national association has been formed, this service will doubtless become more and more attractive to young medical men in the larger cities of the country. Later, when more time is given to medical education, courses in military sanitation, in the duties of national, State, and municipal health officers, and in other subjects bearing directly upon the daily work of the practising physician may profitably be added to the curricula of our medical schools. And even now it might be possible to carry out Dr. Hoff's suggestion in some of the larger and richer schools, adding the course as an elective study perhaps, and not at first making it obligatory upon all.

HOME FOR THE DYING.

A WRITER in the *Evening Post* urges some philanthropic person to "earn the great reward" by establishing in this city what we might term a dying-in hospital. Such an institution, it is stated, was founded in London four years ago, and provides ten beds for those pronounced to be in a dying condition or beyond hope of recovery. While we have nothing strictly corresponding to this charity here, we are not lacking in homes for incurables and for the aged.

Those for whom science can offer nothing, are not the ones sought for by hospital physicians, and even in the institutions for incurables many are admitted who prove quite capable of being restored to usefulness.

There is always room for good to be accomplished in a large city like New York, and the idea may strike some one favorably. It is unquestionably often a great hardship to a poor family to minister during the last days to a member slowly sinking under the inroads of cancer or phthisis; and surely no institution at the present time cares to receive such cases when they have passed a certain point.

THE STATE AND THE DRUG-STORE.

A LEGISLATIVE investigation of the State Health Board brings out the fact that very little work is being done in the matter of drug adulterations because of want of money. Dr. W. G. Tucker, Director of the Laboratory, stated that a collector was sent out over a route through the State. He buys drugs, which are sent to Albany and there tested. Last year sixty-three different localities, representing many hundred stores, were visited, and drugs or samples taken. Where impure drugs are found notices are sent to the dealers. The places are not, however, visited again to see if the quality is improved. Dr. Tucker said that, as a rule, only such drugs as were easily adulterated, or apt to be too weak or strong, were, as a rule, taken. In the majority of cases examined last year the drugs were impure. He thought that if they proceeded against some of these dealers it might remedy this condition, but this would not be popular in this country.

Dr. Tucker presents a very extraordinary state of affairs if his remarks are properly reported. The State sends out a collector on a junketing tour through the state. Samples are bought and tested, and usually found defective. This ends the matter. There is no punishment threatened or inflicted, and the Director

thinks that punishment "would not be popular in this country!" We very much doubt if the people of the State are such fools as the Director thinks. No one cares to be cheated by his druggist any more than by his grocer, and it may at times prove a very serious matter.

There is no particular need of the State poking itself into drug-stores anyway. Good and bad druggists are generally distinguishable, and the matter adjusts itself. If, however, the State is to investigate adulterations in drugs, it should do it in an efficient manner. The present work and methods are farcical.

POLITICS AND THE EPILEPTIC COLONY.

We have always felt the utmost sympathy with the scheme for establishing a colony for epileptics. But we have been sceptical regarding the propriety and wisdom of making it a State affair.

We find that our apprehensions were well grounded. The *Sun* appears recently with an editorial protesting against a proposed bill which has been introduced into the Legislature and which provides for a reorganization of the Craig Colony. It intimates that this reorganization is for "spoils," and that it will turn the Colony into a political machine. We do not know why the *Sun* complains. The Epileptic Colony is "spoils;" the Republicans are victors and to them the "spoils" belong, according to the politician's doctrine. We trust, however, that in this case a scheme that promises so much good will not be frustrated by the spoilsmen.

THE MEDICAL POLITICIAN AND THE PROPOSED NATIONAL BOARD OF HEALTH.

The Philadelphia *Polyclinic* is pessimistic and cautious in the following terms: "The medical politician," it says, "is one of the worst of his class; clothed in the gown of a learned profession, his true character is the more readily concealed and his opportunities for evil are thereby multiplied. That such men exist is a sad but indisputable fact, and it is well known that they are actively at work in the hope that some of the loaves and fishes to be distributed by the new department, or some of its opportunities for personal aggrandizement of a less material character, will fall to their lot.

"It, therefore, becomes the duty of those interested in the health of the community, and in the purity of government, not less than in the elevation of the medical profession, to be on their guard and to see to it that while they assist all proper efforts to concentrate and improve the administration of health affairs in the United States, the fruit of their toil shall not be plucked by self-seeking politicians with a medical degree."

We do not entirely agree with the low estimate of medical politicians put forth by our contemporary. The medical man has as yet had little chance in politics, but he has not abused it to any such extent as has been done by others. The medical men in our State Legislatures have proved themselves efficient and useful as a rule. The medical men who have held positions on Boards of Health, as coroners and as city officials, have not been among the worst but among the best of their class. This is particularly true as regards sanitary work, which has called into prominence some of the best talent in the profession.

We trust and believe that the stigma cast upon the medical man in politics is becoming constantly less deserved. Every medical man should take his share of political work, and with the increasing importance of public medicine this share is becoming of the profoundest importance.

THE INCREASE OF NERVOUSNESS.

The feverish activity of the present age, Professor Erb, in his Heidelberg address, seems disposed in great measure to regard as a symptom of disease. Our century began in disorder and commotion; restlessness, ease of communication, velocity, have practically annihilated time and space. Rushing from change to change seems the only alternative to work. Overcrowding, over-work, over-stimulation, increased use of tobacco and alcohol, railway travel with its nerve-jarring motion, all tend to loss of nerve tone. This rapid, restless, movement has left an irritable and slow recovering nervous system, the neurasthenic, a refined expression of hysteria and hypochondriasis. Its essentials are increased sensitiveness, with weakness, weariness, lack of power of endurance, and defective recuperative power.

Thus far the *British Medical Journal* agrees with the learned German. This is all true; but there is another side to the picture. There is some slight increase of nervousness, but there is also a much greater knowledge of the subject, a greater tendency to freedom of exercise, to freedom from too strict conventionality, to the freedom from ailments that comes from healthful surroundings. There is a decrease in conventional religious feeling and its allied emotional excitement. Worry, not over-work, is the danger of the age. "And this danger," says the *British Medical Journal*, "arises from decreasing and deferred marriage. . . . No one is made good by acts of Parliament, nor is there any very serious risk to the stability of society in the so-called development of neurasthenia."

Original Work in Connection with a Public City Hospital.—The Cook County commissioners propose to establish a laboratory at the hospital for the following purposes: Original research and experimental work; bacteriological and chemical experiments prosecuted by means of the best instruments and apparatus obtainable; the organization of a clinic under the direction of an eminent physician, with ten assistants, to make complete scientific examinations, including a study of all the secretions of the human body; the production of immunes, under which general term are listed all the recently discovered antitoxins, nucleins, serums, vaccine, and lymphs, and to which will be added the new discoveries expected to be made; scientific examinations of milk and milk products, and other food used at the county institutions. A beginning was made last year by a small appropriation. Dr. A. Gehrmann is the bacteriologist, and Dr. John A. Wesner is the chemist.

News of the Week.

Professor Dujardin-Beaumetz died at his home in Paris, on February 16th. He had been ill for about two weeks, but a fatal termination was not anticipated by his friends. He was a Commander of the Legion of Honor, member of the Conseil d'Hygiène et de Salubrité, attending physician to the Hôpital Cochin, and editor of the *Bulletin de Thérapeutique*. He was a most prolific writer, chiefly on therapeutic subjects, and, unlike many who write much, he also wrote well. His last literary work was the preparation of an article on the "Diseases of the Muscles," for the "Twentieth Century Practice of Medicine," now in course of publication in this city, an article which was completed but a few days before his untimely death.

Dr. Daniel Hack Tuke died on March 6th, in London, aged sixty-eight. He was born in York. His predilection for psychological medicine was in a sense hereditary, his great-grandfather, William Tuke, having founded the York Retreat for the Insane, in 1793. He was the author of a large number of works and minor articles on mental disease, and was the editor of the "Dictionary of Insanity" which bears his name.

Resignation of a Hospital Staff.—The entire attending and consulting staff of the Ottawa General Hospital has resigned in consequence of a disagreement with the lay board of directors. At the last meeting of the directors it was voted that the appointments on the medical staff should not be permanent, but should be for a period of three years only, the directors having the right to refuse a re-election to any member of the staff whom they, for any reason, might not care to reappoint.

Treatment of Influenza.—Plicque (*Presse Médicale*, February 6, 1895) adheres to the division of the various forms into thoracic, nervous, gastro-intestinal, and cardiac, but points out that it is not rare for the different forms to be combined together or to follow one another. Treatment should first be prophylactic. When several in one family are attacked, they should be isolated in separate rooms, since when together they appear to infect each other. In common cases without special complications the patient should keep his bed for two or three days, and keep to his room for eight days; otherwise relapses and nervous complications are liable to arise. The medicines recommended by Plicque are antipyrin 30 to 60 grains, tincture of aconite 10 to 30 drops per diem, quinine, and coffee. Antiseptic treatment to the nose, mouth, and pharynx is important—boracic-acid gargle, boracic vaseline to the nasal cavities, and great care of the mouth. This treatment does much to avoid complications and perhaps broncho-pneumonia. For the spasmodic cough in thoracic complications he recommends: Tinct. belladonna, tinct. aconiti, tinct. droseræ of each 30 minims, tinct. myrrhæ 3 ijss.; 20 to 30 minims per diem. Congestion of the bases of the lungs may be relieved by dry cupping; blisters should be avoided. In respiratory catarrh emetics are useful in children and adolescents, and chlorhydrate of ammonia. Nervous complications with excitement and delirium are best treated with bromide of potassium, 30 to 60 grains per diem. For nervous depression he recommends equal parts of tincture of kola and coca. For the cardiac form Plicque advises dry cupping, sinapisms, subcutaneous injections of caffein and ether or of camphorated oil (sterilized olive oil 3 ijss., camphor 30 grains). In the gastro-intestinal form emetics are good in young subjects at the onset, and saline purgatives; if much diarrhœa, intestinal antiseptics (salol, naphthol, and salicylate of bismuth). During convalescence high altitudes are better than sea-air.

Masonry and the Medical Profession.—Dr. Thomas R. Evans, of Mt. Carbon, West Va., writes: "I waited to see if some jealous mason would notice a sentence in your otherwise very pleasing mention of masonry in the MEDICAL RECORD of February 23d. But modesty, or the dislike to answer the *ex-cathedra*, especially as it is the arbiter and 'morgan' of so many original articles, or from the fact that true masonry never vaunts itself, there has been no reply. Unless this notice has been anticipated and is awaiting its turn to see the light, masonry in the South has always 'taken a marked hold upon the profession,' and in the North and West the same is probably true."

Permanganate Treatment of Morphinism.—Dr. W. Moor writes that he has observed only twenty-one cases instead of seventy-one, as stated.

Tri-State Medical Society of Iowa, Illinois, and Missouri.—The next meeting will be held in St. Louis, April 2, 3, and 4, 1895.

The New York Medico-Surgical Society was organized March 4, 1895. The objects of the New York Medico-Surgical Society are the discussion of medical and surgical topics and the cultivation of social intercourse among its members. Meetings are held on the first Monday of every month, except July, August, and September. Membership is limited to one hundred. No initiation fee—annual dues, $3. Edward J. Bermingham, M.D., is President, and Samuel E. Milliken, M.D., Secretary.

Physical Examination by Physician of Her Own Sex.—Judge Andrews has just decided that it is the absolute right of the plaintiff to have any physical examination required by law. The examination made by a physician of her own sex, to be designated by the court or the judge.

Danger to the Craig Colony.—A bill has been introduced into the Legislature by Mr. Kelsey, of Livingston County, to remove the five managers of the Craig Epileptic Colony, and make places for twelve managers selected on another plan. This scheme is described by the Rochester *Union and Advertiser* as a "disreputable scheme for looting that institution." The *Post-Express*, also of Rochester, opposes with equal intelligence and conviction the Kelsey bill.

The Regulation of Chiropody.—A bill has been introduced into the State Legislature which proposes to incorporate a "Pedic Society," and through its agency to regulate the practice of chiropody. The bill provides that persons who wish to engage in chiropody in the

future must pass an examination, to be conducted by a Board of Examiners of the Pedic Society, upon the anatomy and physiology of the feet, therapeutics, chemistry, minor surgery, and bandaging. Each applicant must pay $10 to the Board as an examination fee, in advance, and $25 to the Pedic Society if he receives a certificate of qualification. Finally, the act makes it a misdemeanor to practise chiropody without conforming to its requirements.

The German Medical Congress.—The value of antitoxin serum in the treatment of diphtheria is one of the principal subjects set down for discussion at the German Medical Congress to be held at Munich from April 2d to April 5th. The subject will be introduced by Professor Heubner, of Berlin, and Professor A. Baginsky, of Berlin, will read a paper on the subsidiary effects of the serum. The other subjects selected for special discussion are the therapeutics of iron, to be introduced by Professors Quincke, of Kiel, and Bunge, of Basel; and the pathology and treatment of typhlitis, to be introduced by Professors Sahli, of Bern, and Helferich, of Greifswalde. An exhibition of apparatus, instruments, and preparations will be held during the Congress.

Dr. Arnold Hallett died in Norwich, Conn., March 9th, aged sixty-nine. For thirty years he was a physician in Brooklyn, being connected with the Long Island Hospital. He was born in St. John, N. B., and graduated from the College of Physicians and Surgeons, New York. He was a member of St. Peter's Church, Brooklyn.

A Medical Building.—A project is on foot to erect a ten-story office building in Chicago, to be known as "The Medical." The intention is to have the building given over to doctors for offices, and the rooms and conveniences are to be arranged with that object in view.

Small-pox at Hot Springs, Ark.—An epidemic of small-pox has broken out at Hot Springs, Ark. Forty-two cases are reported to have occurred. A house-to-house vaccination is being made, and other precautionary measures taken. The authorities report that they expect to have the epidemic under control within a short period.

Dr. Jenkins Appointed Special Pathologist.—At a meeting of the Board of Coroners, held March 2d, Dr. William T. Jenkins, recently Health Officer of the Port, was appointed special pathologist to the board, without salary. His duties will be to assist in making autopsies when requested, and it is stated that Dr. Jenkins had offered his services gratis.

Death of Dr. F. N. Taliaferro.—Dr. F. N. Taliaferro, formerly of Hicksville, L. I., died of tuberculosis, January 16th, at Aiken, S. C., whither he had gone to regain his health. With bright prospects he was untimely cut-off at the early age of thirty-three.

New York College of Pharmacy.—Senator Cantor's bill authorizing the New York College of Pharmacy to confer the degree of Doctor of Pharmacy and to increase its holdings to one million, has passed the Senate.

Antitoxin and the Health Board.—Dr. Hermann M. Biggs, director of the Bacteriological Department, reports that the general mortality from diphtheria in New York has been reduced nearly forty per cent., a result apparently due to the use of antitoxin.

Correction.—By a typographical error in Dr. Eshner's article, the dose of pilocarpine prescribed is given on page 302 of the MEDICAL RECORD for March 9th as grain $\frac{1}{2}$, instead of grain $\frac{1}{15}$.

Obituary.

MATTHEW D. FIELD, M.D.,

NEW YORK.

DR. MATTHEW D. FIELD, a well-known medico-legal expert, and surgeon to the Manhattan Elevated Railroad, died on March 6th, of heart disease, after an illness of four months. Dr. Field was the son of Matthew D. Field, and nephew of the late Cyrus W. Field. He was born at Nashville, Tenn., forty-one years ago. In 1875 he was graduated from Williams College and finished his education at Bellevue Hospital, receiving his degree of M.D. in 1880. Dr. Field was an examiner in lunacy for the city, and also, from the opening of the elevated railroads, surgeon of the system and the right-hand man of Colonel Hain. Dr. Field was a member of the Medico-Legal Society, of the New York Medical Society, and of the Democratic Club. Dr. Field contributed a number of important articles on medico-legal subjects. He is survived by Mrs. Field, who was Miss Atwater, and their two children. His three brothers are Captain Wells L. Field, Commander of the school-ship St. Mary's; Henry M. Field, of Brownsville, Tex.; and Heman L. Field, who is also in the Southwest. The funeral took place at the Field residence, and the burial will be at Stockbridge, Mass., on Monday.

Reviews and Notices.

DOSE-BOOK AND MANUAL OF PRESCRIPTION WRITING. By E. Q. THORNTON, M.D., Ph.G., Demonstrator of Therapeutics, Jefferson Medical College. 12mo., pp. 334. Philadelphia: W. B. Saunders. 1895.

THIS manual covers a great deal of ground and is full of practical suggestions regarding all the departments of knowledge touched in prescription writing. There is a very complete list of the officinal drugs, in alphabetical order, also the newer remedies with their dosage, in apothecaries' and metric systems, useful points on prescription writing, a very intelligible comparison of relations of the different weights and measures. It will take its place in the front rank of works of its sort, and appealing as it does to the needs of a large class of practitioners, will doubtless command a large patronage.

THE THEORY AND PRACTICE OF MEDICINE. By FREDERICK T. ROBERTS, M.D., B.Sc., F.R.C.P.; Professor of Materia Medica and Clinical Medicine at University College, London. Ninth Edition. 8vo, pp. 1168. Philadelphia: P. Blackiston, Son & Co. 1894.

THE ninth edition of this valuable work bears evidence of very careful revision and much judicious elaboration. True to the requirements of the times, the painstaking author has paid special attention to the relations of bacteriology to disease, and has prepared new sections dealing with the general therapeutics of the principal systems and organs as a preliminary intro-

duction to the study of the symptoms and diseases belonging to each. The rapid advances made along different lines have been carefully noted, but even the time taken to get a work of this size through the press leaves some important recent topics necessarily unnoticed. No opportunity has been offered for reference to the important subject of the serum-therapy of diphtheria, as investigations bearing thereon have been elaborated since the work went to press. But this circumstance will not materially detract from the value of the work nor in any direct way interfere with its continued popularity as a leading authority in general medicine.

THE LIFE AND LETTERS OF DR. SAMUEL HAHNEMANN. By THOMAS LINDSLEY BRADFORD, M.D., author of "Homœopathic Bibliography of the United States." 8vo, pp. 513. Philadelphia: Boericke & Tafel. 1895.

THIS volume, giving in much detail the life, character, and letters of the founder of homœopathy, carries with it much interest in the study of the methods and indefatigable industry of one who had the courage of conviction, and who fought consistently for the establishment of what he considered a leading principle.

CLINICAL LECTURES AND ESSAYS ON RICKETS, TUBERCULOSIS, ABDOMINAL TUMORS, AND OTHER SUBJECTS. By SIR WILLIAM JENNER, Bart., K.C.B., M.D. London, etc. 8vo, pp. 329. New York: Macmillan & Co. 1895.

RARELY are collected in a single volume of small size so much of valuable clinical material as can be found herein. The ripe experience, broad views, and soundness of judgment of the author are manifest in a striking degree, and make the subject not only interesting but instructive. The commendable endeavor to make all the varied pathological conditions present in these common and wide-spread diseases, accord with the well-recognized symptoms so often presented, rounds out the subjects with a completeness of description and practical interest which cannot fail to give new points of view to every reader, and new ideas to every student.

A MONOGRAPH ON DISEASES OF THE BREAST. Their Pathology and Treatment, with Special Reference to Cancer. By W. ROGER WILLIAMS, F.R.C.S., Surgeon Western General Dispensary. 8vo, pp. 572. London: John Bale & Sons. 1894.

THE previous writings of Mr. Williams on the "Principles of Cancer and Tumor Formation" naturally prepared the way for the present elaborate work on "Diseases of the Breast," with which, unfortunately, malignant trouble is most frequently associated. With a thoroughness which could be anticipated the author has gone over the entire ground indicated by the title. Beginning at the ontogeny and phylogeny of the gland, he discusses in turn its morphology, secretory anomalies, variations *per defectum et erraticum*, its histology, the varieties of mammary neoplasms and their relative frequency, and then proceeds to the interesting question of the pathogeny of cancer and other neoplasms, and to the attendant discussion of the microbe theory. In common with the majority of leading pathologists the author adopts the cellular and embryonal theory as against the microbic, maintaining that the microbe has not been found because there is none. The chapter on "Morphology" is specially interesting and is treated in a satisfactory and exhaustive manner. The general pathology of cancer, the clinical features of the disease, and the treatment are also very fully considered, and elaborate statistics are furnished to establish the benefit of operative procedure. Differential diagnosis is viewed principally from the clinical stand-point, and the leading features of benign tumors are fully set forth in the different chapters concluding the work. As a whole the work is a great success, being the most elaborate and scholarly treatise on this subject that has as yet appeared.

NOTES ON THE NEWER REMEDIES: THEIR THERAPEUTIC APPLICATIONS AND MODES OF ADMINISTRATION. By DAVID CERNA, M.D., Ph.D., Demonstrator of Physiology and Lecturer on the History of Medicine in the Medical Department of the University of Texas, etc. Pp. 253. Second Edition. Philadelphia: W. B. Saunders. 1895.

THIS little book presents a large amount of information, collected from various sources, and arrayed in alphabetical order, concerning the newer and mostly unofficinal materia medica. While nearly all of the contents of the book should be familiar to the diligent reader of current medical literature, the author has rendered a service to the profession in bringing together in one volume the facts concerning the newer remedies. We believe, however, the official preparations, acetanilid, codeine, hamamelis, hydrastinine, hydrogen peroxide, lanolin, menthol, naphthalin, naphtol, nitroglycerine, paraldehyde, phytolacca, picrotoxin, quebracho, resorcin, rhus, sparteine, strontium bromide and lactate, terebene, terpine, thymol, and viburnum are sufficiently well presented in the usual text-books upon materia medica. In a work which is a compilation errors are not easily avoided, yet the dose of creosotal (creosote carbonate) is not seven and a half to fifteen drachms, and if it were, the equivalents are not ten to twenty grammes. Other statements are incomplete; for instance, this drug is said to be soluble in alcohol; as a matter of fact it will take up less than fifteen per cent. Occasionally we find omissions; certainly strontium iodide is quite as deserving of mention as is the bromide and lactate. Some definitions do not define: for example, it is questionable, to say the least, if morrhuol is the active principle of cod-liver oil, and that it has the same uses as the oil. Usually the pharmacopœial nomenclature is followed, but among the exceptions we would note naphthalin and naphthol. The subjects are in general presented with sufficient fulness, but in several instances the contained information is incomplete and unsatisfactory. This is the more to be deprecated in a work dealing with subjects not usually fully treated of in the text-books. This edition is an improvement upon the first, but it leaves much to be done in the way of editing and comparing the ever-increasing information to be found in the journals.

BULLETIN OF THE HARVARD MEDICAL ALUMNI ASSOCIATION. Number 7. Report of the Fourth Annual Meeting, held in Boston, June 26, 1894. Published by the Association.

THIS "Bulletin" contains an address by the President; a Report on the Condition of the Medical School; addresses by Drs. W. W. Keen, William Osler, William M. Polk, John I. Billings, and the President-elect, Dr. George B. Shattuck, which are all good.

The Medical School, as well as the Alumni Association, is shown to be in a very flourishing condition.

CHEMISTRY: GENERAL, MEDICAL, AND PHARMACEUTICAL, INCLUDING THE CHEMISTRY OF THE UNITED STATES PHARMACOPŒIA. A Manual on the General Principles of the Science and their Applications in Medicine and Pharmacy. By JOHN ATTFIELD, F.R.S., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, etc. Fourteenth Edition. Philadelphia: Lea Brothers & Co. 1894.

THE fourteenth edition of any scientific work speaks for itself, and is the most striking possible statement of its real value. Add to it the fact that the author was awarded a gold medal in 1883 by the First International Pharmaceutical Exhibition, held in Vienna, and the uncertain purchaser need hesitate no longer in selecting a standard work on chemistry.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, February 25, 1895.

EGBERT H. GRANDIN, M.D., PRESIDENT, IN THE CHAIR.

The Diagnosis of Cutaneous Syphilis, Illustrated by Lantern Slides of Syphilis and other Skin Diseases.—DR. GEORGE H. FOX made the demonstration. He first showed a few cases of extra-genital chancre. One was upon the lip, a common site; another upon the chin, a rather unusual site. Next came early exanthema, or skin lesions during the first year, consisting usually of papular or macular, or maculo-papular eruptions. The early syphilide was symmetrical and disseminated; in some cases it was abundant, in others not abundant. The further removed they were from the date of the infection the more likely were the cutaneous lesions of syphilis to be located upon more limited portions of the body and to affect deeper tissues. The old iron-bound division of syphilis into secondary and tertiary was being given up to-day, because some of the tertiary lesions would occur in the early course of the disease, while some of the so-called secondary lesions might appear fifteen or twenty years after the infection. Nor would he speak of the division usually adopted, the macular, papular, vesicular, and pustular eruptions of the early stage. The vesicular eruption was rarely if ever seen. The usual form was the papular, although a number of the slides exhibited the macular or mixed forms. The papules were usually miliary or lenticular, or were large and of circular form. The lesions felt like small lumps in the skin, and projected to a varying distance above it. The peculiar purple color, which was of aid in diagnosis, could not be shown in the photos presented.

A case of lichen planus was shown which might have been mistaken for syphilis, but there was seldom much resemblance between the two. A case of syphilis bearing some resemblance to psoriasis followed. The lesions having in this case a tendency to become large, the larger ones healing in the centre, producing an annular form. Next was a case of variola which looked like a papular syphilide, the distribution also being the same. Dr. Fox had seen a number of cases of variola at Willard Parker Hospital in which the diagnosis from syphilis would have been very difficult from the appearance of the lesion alone. Next was a case of papular or seborrhœal eczema, but the lesions were not rounded as in syphilis, and they showed a tendency to spread or form a diffuse inflammation of the skin, patches running together, and usually being scaly. Next was a case of chronic acne of the back, presenting little basis for error in diagnosis. A case of general eruption followed, with long scratches which in themselves pointed to pediculosis, for there was no other disease, not excepting scabies, in which there was more violent itching, with a tendency not only to scratch, but even to tear, the skin. A case was then shown of large papular syphilide of the forehead and about the mouth, and another of macular syphilide of the forehead, described as the corona by older writers. The large papular syphilides were apt to become moist upon the surface, and the outer layer being removed, leave superficial ulceration. They were apt to be associated with mucous patches upon the lips and oral cavity.

A case of ringworm was shown, resembling papular syphilide, with tendency of the papules to flatten and form circles. In one instance the diagnosis was peculiarly difficult until it was shown, by the presence of mucous patches and by treatment, that there was both syphilis and ringworm. In one instance erythema multiforme upon the face had presented some resemblance to syphilis. In the case of a woman who had very striking Hutchinsonian teeth, pointing to hereditary syphilis, there was a distinct eruption of recent syphilis, showing that this form of teeth did not always indicate hereditary syphilis or that subsequent infection could take place. Dr. Fox thought either explanation might be correct.

Perhaps the majority of syphilitic patients had no lesion upon the palms, yet in many, one could make the diagnosis by the lesion in this location alone. It was apt to appear considerably later than the early lesion upon the body and extremities. The same fact occurred in variola, and patients could be seen in small-pox hospitals digging out the eruptions on the hands with the penknife after the eruption had disappeared from other portions of the body. In many cases in was difficult to distinguish by the eruption upon the palm or sole alone, whether it was a case of syphilis or of eczema, but it was very apt to be one of the two, where the rest of the body was free, and not psoriasis or other affection. In the majority of cases of syphilitic skin eruption it was unnecessary to ask the patient his history; syphilis was written upon the skin, and it ought not to be mistaken for anything else by one who had had any experience.

He then passed to tubercular syphilis, and explained that the term was used simply in relation to the nodular appearance of the lesion, and not to any tuberculous infection. Usually this form of eruption came late, or in the third stage. It was shown in comparison with eczema, with tubercular leprosy of the face, with psoriasis, etc. In psoriasis the infiltration of the skin was slight and the scaling was marked. Lupus vulgaris of the face was sometimes mistaken for late syphilis, but it often gave a history of existing for years, which was not true of active syphilitic lesion; and the latter disease had not the same tendency to remain in one spot. In this connection he showed cases of fungoid or vegetating condition of the syphilitic nose and face, and one of early extensive destruction of the middle face. The general practitioner was liable to change his diagnosis in a case of syphilis if it failed to respond to medicinal treatment in a short time, and for that reason patients often suffered from advancing lesions which could be readily controlled by first instituting general hygienic treatment, giving proper food and exercise in the air, then resorting to iodide and mercury, when a change for the better would become quickly apparent.

Prescribing Druggists.—DR. JOHN A. IRWIN called attention to the well-known fact that all druggists in the city, with possibly half a dozen exceptions, prescribed over the counter. Any person asking them for something to relieve headache, or other ailment, but not specifying any medicine in particular, would be given some remedy supposed to be appropriate to the case. This was a violation of the law regulating the practice of medicine, and worked harm not alone to the medical profession, but especially to the public. He thought it was a matter which should be acted upon by the Society. Individual members of the profession could not be expected to get the necessary evidence and prosecute those who thus violated the law. He moved that a committee be appointed for that purpose.

Some remarks were made by DR. W. C. PHILLIPS, the President, and others, mostly in explanation of the machinery now in existence for this purpose, and on motion of Dr. Phillips an amendment to the original motion was passed, directing the comitia minora to have evidence obtained through the counsel against druggists who prescribed illegally over the counter, and to prosecute them.

The Plague is reported to have broken out at Amoy, China, where the average number of deaths is fifteen daily.

Clinical Department.

APPENDICITIS DURING PREGNANCY.

By N. B. BAYLEY, M.D.,

HAVERSTRAW, N. Y.

In the MEDICAL RECORD for December 1, 1894, is an article by Dr. Paul F. Mundé on the premature delivery of a dead child induced by an acute appendicitis, in which he speaks of the rarity of appendicular inflammations during the pregnant period.

In the following case which I am about to report, the woman was a healthy one; she had never suffered from any abdominal or pelvic inflammatory trouble previous to this acute appendicitis.

On November 8, 1893, I was called to see Mrs. C. E. S——, American, thirty years of age, III-para, and then in her sixth month of pregnancy. She had a sharp intestinal colic attack in which the pain was chiefly complained of in the right side, some looseness of the bowels, with a tendency to vomiting. There was a history of indigestion and overwork, which seemed plausible causes for the attack. The usual remedies were prescribed, which gave some relief for a couple of days—so much that the patient did not send for me until the 11th, when there was a recurrence and reinforcement of all the previous symptoms. The pain was now almost entirely confined to the right half of the abdomen, quite severe, with a tendency to nausea and vomiting, occasionally. There was rigidity of the muscular walls over the right iliac region; the McBurney point being well marked upon pressure with the tips of the fingers, so much that the patient cried out with pain. My diagnosis was acute appendicitis; but as I had never seen or remembered reading of a pregnant woman suffering from this condition, there was anxiety as to its outcome. What would be the effect of these inflammatory foci in so close proximity to the fœtus, with their disturbing effect upon the whole system, and whether the case would do better with or without an operation, were questions which data were not at hand to answer.

The pain was severe enough to require opiates. I administered at first morphine, one-sixth of a grain hypodermatically, followed by phenacetin in five-grain doses every three hours, also trituration of calomel in four-grain doses every three hours. As the phenacetin was powerless to relieve the pain, opium in grain doses was substituted, and repeated sufficiently often to produce a quieting effect, but not to narcotism. This required one grain once in three or four hours on the average, for two days, when the intervals between doses were increased. The calomel was continued until some soreness of the gums, with sticky saliva, was produced, when it was omitted and potassium chlorate was substituted for a mouth-wash and gargle. The calomel, with the aid of occasional drachm doses of Rochelle salts, produced daily an easy movement of the bowels and contributed to the patient's comfort by the relief of gaseous distention. To the external surface of the abdomen hot applications with turpentine were used in this case, although the writer's preference is for the ice-bag.

The temperature rose from 101° F. on the 11th to 102° and 103° F. on the following two days; then slowly declined to normal on the 18th.

On the 14th there was a distinct, though slight, lessening of the rigidity of the muscles over the iliac region, with a decline in the temperature. The 15th and 16th were days of progressive distinct amelioration, still considerable pain persisted on movements of the body.

On the 18th the patient was fairly convalescent, with appetite returning; from this date went on to complete disappearance of all tenderness, rigidity, the McBurney point, and pain. She recovered completely, and had at the termination of the period of pregnancy a normal, though a more tedious, labor than in her previous confinements, on March 3d, and has remained well ever since.

During the attack there were at times some uterine pains, and I feared labor would be ushered in as the combined result of pain and fever, and general systemic disturbance due to the disease.

As the result of the calomel and a couple of doses of salines, the intestinal contents were kept loose with usually one, or not to exceed two, movements daily, with much relief to the tympanitic condition. This, no doubt, contributed to an aseptic condition of the canal to a slight degree. No pus was found at any time in the alvine discharges. At the time of her labor there was no thickening or induration to be made out in the region of the appendix. The puerperium was passed in a perfectly normal way.

As in this case no abdominal section was made to positively prove the diagnosis (there can be no doubt of it from the symptomatology), I had at about the same time an unmarried woman, twenty-eight years of age, pass through an almost identical attack of appendicitis, this being her second and severer attack during the year. She presented the following symptoms: Fever, rising to 103° F.; rigidity of muscles in the iliac region; slight dulness, McBurney point, pain, and somewhat tympanitic abdomen The treatment consisted of opium sufficient to dull the acuteness to pain, studiously avoiding narcotism, and the ice-bag continuously applied to the abdomen, small doses of calomel, which in this case did not act as a laxative, but was continued for its supposed antiseptic effect.

What the pathological condition of the appendicular structures was here, must be judged from the concomitant symptoms. Though both cases recovered for the present, the question whether surgical treatment would have been preferable to medicinal or palliative remedies, would most likely be decided in the affirmative for the former by a large majority of surgeons. The question of surgical treatment is one which in many cases will be decided by the environment. In a minority of cases the abdomen must be opened, and the surgeon be prepared for an emergency that may arise. This is an important question for the practitioner in districts remote from large towns, where efficient assistance or a competent surgeon cannot be easily obtained. If substantially the same proportion of cases of moderate severity of appendicitis recover under medicinal as well as surgical treatment, it will bring comfort to many practitioners and patients as well, who are situated where skilled surgical attendance is wellnigh impossible, as the practitioner has been told that no surgeon not skilled in abdominal sections should enter the abdominal cavity.

December 17, 1894.

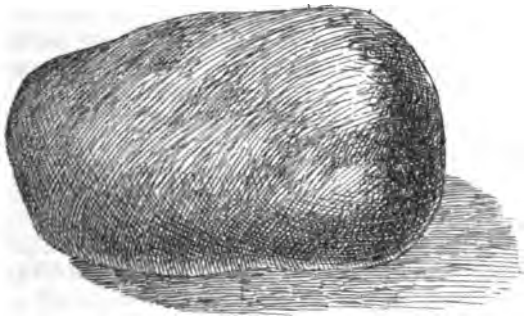
REPORT OF A CASE OF INTESTINAL OBSTRUCTION FROM A GALL-STONE—OPERATION—RECOVERY.

By D. E. WALKER, M.D.,

NEW YORK.

On December 24, 1894, I was called to see Mrs. H——, who was suffering from severe spasmodic pains in the region of the gall-bladder. She was thirty-five years of age, a rather large, active, and healthy-looking woman, whose family I had attended for some time. She had always enjoyed fairly good health, with the exception of what was called an attack of congested liver and bowels, three and a half years ago, in England. With that she had fever, and the right side along the border of the ribs was much swollen and very painful. She was then slightly jaundiced and distended, and the urine was thick and dark colored.

On the evening of December 23d, while lifting some furniture, she was seized with spasmodic pains in the region of the gall-bladder. These recurred at rather frequent intervals. She took an enema in the night and had a free evacuation. When I was called the pains continued. There was some tenderness above umbilicus, but no vomiting, no distention, no sweating, no elevation of temperature nor acceleration of the pulse, and no jaundice. The bowels, which were ordinarily pretty regular, had for a few days been constipated. At first sight the case seemed one of rather mild gall-stone colic, and I directed small doses of calomel and ipecac



Gall-stone Causing Obstruction of Intestine at Ileo-cæcal Valve. Natural Size.

with opium for relief of pain if needed, to be followed next morning with seidlitz powder and Rochelle salts. In the morning the patient took a large dose of castor-oil, which she immediately vomited and the pain increased. I saw her shortly afterward and directed a turpentine enema, without effect. I then directed a seidlitz powder every two hours till three were used, then to be followed by another enema. I had begun to fear that there was obstruction of the bowels, though the pulse and temperature remained normal and the patient had vomited but once.

Returning again about 7 P.M., on December 25th, I found the patient had taken six or seven seidlitz powders and had stercoraceous vomiting. Bowels had not moved and pulse had become more rapid, being now about 95. I decided that there was some obstruction, probably in the region of the gall-bladder, in the small intestine, and that an operation would be necessary. I had Dr. W. Gill Wylie called, and he agreed that an operation would be necessary unless relief was speedily obtained. He concluded that the obstruction was probably caused by a band of adhesions in the region of the gall-bladder—the result perhaps of some old inflammatory process ; but as her general condition was good a hypodermic of morphia was given, with directions to follow it in three hours, if she did not vomit, with a large dose of compound licorice powder and a turpentine enema. At 6 A.M., December 26th, licorice was given and retained, nothing else given by mouth—nutritive enemata given during night. The turpentine enema failed. Dr. Wylie then advised the free use of Epsom salts hypodermatically, without effect.

At 3 P.M., December 26th, patient's temperature was still normal ; pulse, about 100 to 105. She was etherized and Dr. Wylie, with my assistance, made an incision about an inch to the right of the median line, commencing on a line with the umbilicus and extending straight upward for about four inches. Within the cavity a mass of tough adhesions were found involving the liver, the fundus of gall-bladder, the stomach, and the intestines. It was impossible to expose to view the gall-bladder or the duodenum on account of the adhesions. There was no stone in the gall-bladder. Finding no apparent obstruction at this point, Dr. Wylie introduced his hand and feeling downward toward the pelvis, brought up what appeared to be a large cork lodged at the ileo-cæcal valve. It completely filled the intestine at that point. The large end was downward. It could be pushed upward, but not down through the valve. An opening was made in the intestine—care being taken to cut no blood-vessels—and the body, which proved to be a gall-stone, was squeezed out, sponged, and removed.

The intestine was carefully cleansed and sewed up, first with fine silk sutures, and then the peritoneal coat closed over the silk with catgut. Abdomen was closed with silk sutures, and dressed with iodoform and moist iodoform gauze. The patient made a good recovery.

The stone (see Fig.) was two inches long, and one and one-fourth inch in diameter. It was found to be composed almost entirely of cholesterine, by Professor Chandler, who very kindly examined it for me.

Dr. Russell H. Johnson, of Philadelphia, in 1885, reported a case of death from a gall-stone one and three-quarter inch in length, and one inch in diameter, lodged at the ileo-cæcal valve. The patient lived six days after initial attack. The symptoms, with exception of the spasmodic pains, were much the same. His case was not operated.

Dr. Leale reported a case, in 1879, in which invagination occurred, and the stone was finally removed by digital dilatation of the ileo-cæcal valve through the rectum, some days after initial attack.

The indications which would seem to point to a diagnosis of obstruction from gall-stones at this point are, a previous history of trouble about the gall-bladder, with a tendency to constipation, the lack of distention from gas, the slow development of alarming symptoms, and the fact that there is little tendency to vomit when the stomach is let alone.

This case emphasizes the advantage of early operation in all such cases. In this case an interesting question arises, as to the location of the stone during the three years and a half in which it must have lain quiescent in the small intestine, as I think there can be little doubt that it ulcerated through during the so-called attack of congested liver and bowels. The large end of the stone was rough and somewhat uneven, and had a little blood on it, as if it had broken loose from some attachment to the intestine. The small end was very smooth.

219 WEST FORTY-THIRD STREET.

FILAMENTARY KERATITIS.

BY A. L. MACLEISH, M.A., M.D., C.M.,

LOS ANGELES, CAL.

I DESIRE to place on record an instance of this rare affection, which recently occurred in my practice in this city. Nuel and Uhthoff[1] agree in estimating its frequency at about once in six thousand cases of eye-disease. Albrand,[2] on the other hand, insists that close attention reveals a much higher proportion, 16 cases having been observed in one year in Schöler's Clinic and Dispensary in Berlin, where during the previous seven years only 8 cases had been noted. In the course of thirteen years' ophthalmic practice I have found true corneal filament, as distinguished from vitreous filament, only this once among upward of 7,000 cases of eye disease.

G. W. C——, a robust adult, had tolerated an "inflammation" of the right eye for thirty-eight days before seeking treatment, to which he was driven ultimately by dimming of vision during the last few days. I found a superficial keratitis in two foci to the outer side of the centre of the cornea, which by extension had become confluent, beginning to break down in the centre of each into shallow pulpy gray ulcers. On the lower part of the cornea, 1.5 mm. from the margin, and thus fully 3 mm. distant from the nearest border of the infiltration, there was a solitary, pellucid, knob-shaped elevation, somewhat less than 1 mm. in diameter. Next

[1] Archives d'Ophthal., xii., p. 533.
[2] Klin. Monatsbl. f. Augenheilk., 1892, S. 265.

day a smaller one was found close beside it, and on the fourth day two more close to the lower margin of the cornea, and one in the upper inner segment of the cornea, at about the same distance from the infiltrated areas. All of these were pellucid, highly refractile bodies, rising more abruptly from the cornea than vesicles do, and devoid of surrounding or underlying infiltration. On touching them with a fine probe under the corneal loupe, they were found to have the characteristic form of clavate outgrowths, freely movable on a funnel-shaped base, by which they were attached to the cornea. Lateral pressure with the probe unrolled the largest knob into the form of a filament with tiny knob-shaped end, which measured in all 2 mm. in length; under the friction of the eyelids the original apparently sessile form was again assumed. With ordinary treatment the ulcers quickly took on a healthy action, and by the sixth day were cicatrizing. The filaments persisting unchanged, were on this day removed as coherent masses by abrasion with the probe, bringing away with them small portions of the corneal epithelium surrounding their bases, from which no fluid escaped. No special application was made to these denuded areas, and they quickly healed without nebula, though one subsequently exhibited a slight wrinkling of the epithelium. There was no further formation of filaments.

First described by Leber in 1882, it is only within the last three years that these filamentary outgrowths of the corneal epithelium have attracted much notice, being specially interesting on account of their pathological uniqueness. Our knowledge of their microscopic structure is chiefly due to Hess and Nuel, whose latest investigations[1] have conclusively established that the true corneal filament is a specific structure, due to a peculiar disease of the epithelium. The epithelium in the neighborhood of the filaments is almost always found to contain large elliptical hyaline cells with subdivided nuclei. The filament springs from a funnel-shaped base consisting of this altered and proliferating epithelium. It is invariably composed of a highly twisted central cord, ending in a distal knob, this axial structure being built up of twisted, and sometimes degenerated, epithelial cells; enveloping the axis is a fine layer of hyaline material.[2]

Filamentary keratitis is found both as a primary and as a secondary affection. The primary form seems comparable to the eruption of herpes of the cornea, at least in its text-book type, for which it may readily be mistaken. Hess, indeed, holds that most of the cases classed as herpes cornea are, in reality, examples of filamentary keratitis. I have never chanced to find herpes of the cornea in the primary stage, with unruptured clear vesicles; but I should consider that the use of the probe in the manner indicated above would serve to distinguish the two affections. As a secondary effection, filaments may occur where the superficial or deeper layers of the epithelium have been injured by wound or ulcer, as, for example, when the cornea has been peppered with grains of gunpowder, or where there has been imperfect adaptation of a wound. It will be observed that in the case described above none of the filaments were within 3 mm. of the areas of the cornea affected with keratitis, and there was no evidence of local injury to the cornea; so that they would seem to be an accompaniment rather than a result of the keratitis.

According to Albrand,[3] the direct cause of the formation of filaments in suitable lesions of the cornea is the use of atropine, especially in solutions impure or not perfectly neutral. He recommends, in addition to the disuse of the atropine, the painting of the transition-folds of the conjunctiva with two per cent. solution of nitrate of silver. In the case described above, filament formation was found at the first visit, though the eye was not under the influence of a mydriatic. In many cases, as in ours, no special treatment is required beyond the abrasion of the filaments along with the affected epithelial base.

The solitary filament which is frequently found at the site of the corneal puncture, where the needle has been used for the division of "after-cataract," is, according to Hess, a pseudomorph of the true corneal filament. Its occurrence, never after discission of the lens, but only in operations for after-cataract, where the vitreous is necessarily penetrated, the absence of epithelial elements from its structure, and the fact that the corneal epithelium can be peeled off, leaving it still in situ, all go to support the old view, that this is a mere shred resulting from the protrusion of a bead of vitreous through the needle wound.

129 South Spring Street.

[1] Hess in von Graefe's Arch. f. Ophth., xxxix., 2; Nuel in Archives d'Ophthal., October, 1893.

[2] See Review by W. T. Holmes Spicer, in Ophthalmic Review, January, 1894.

[3] Loc. cit., and Nagel's Jahresbericht, xxiii., S. 262.

MALPOSITION OF THE TESTICLE; PHIMOSIS; ACUTE INSANITY; OPERATION; CURE.

By HOWARD CRUTCHER, M.D.,

CHICAGO, ILL.

August M——, aged thirteen, a poorly nourished Bohemian boy, was brought to my clinic by Messrs. W. B. Page and D. R. Good, medical students. Until six weeks before my examination the boy had been remarkably bright, though somewhat excitable. At the time indicated he was badly frightened by a railroad watchman, who threatened him with arrest for some trivial offence, since which date he had been violent and mild by turns, but always irresponsible in his actions and incoherent in his language. He seemed to have no conception of the purpose of the examination, but submitted quietly to my manipulations.

The first condition noted was a firmly adherent prepuce, accompanied by considerable irritation around the meatus. Further examination revealed the presence of the left testicle in the ischio-rectal space. Both conditions were congenital. The left scrotal pouch was normal to all appearances, save for the absence of its usual contents. The misplaced gland was freely movable, and the cord could be plainly outlined from the external ring downward.

It was not known that any previous attempt to transfer a misplaced testicle to its normal location had been successful, but there seemed to be no valid reason why the effort should not be made in this case. Accordingly, on January 9th, assisted by Drs. W. W. Stafford, and F. H. Lockwood, I circumcised the patient and placed the left testicle in its natural bed.

As this report covers the first successful American case, perhaps the details of the procedure may be of value for future guidance.

An incision about an inch and a half long was made in the centre of the left scrotal pouch; the testicle was then pushed upward as far as possible by an assistant, and the gland carefully exposed by dissection. The cord was next liberated well up toward the ring. Both structures were then wrapped in hot gauze and drawn away from the field of operation. The testicle was found between the superficial and the deep layers of perineal fascia, and was firmly attached to the median tendon of the perineum. The layers of fascia were then united by a double row of plain fine catgut sutures. These sutures simply united the posterior wall of the scrotal pouch, and the testicle was then placed within the scrotum, and the primary incision closed over it with a suture of fine chromic catgut. No drainage was employed. A gauze pad was adjusted snugly against the perineum and the usual dressings applied. Within twenty-four hours a decided mental improve-

ment was noted. This continued without substantial interruption until the boy was perfectly restored to his senses. It is only just to say that this happy result is wholly attributed to the beneficent influence of the circumcision. The left testicle is now securely at home in its natural resting-place, and as the union of the tissues has for some time been complete, there remains no doubt of the entire success of the operation. The boy is allowed the freedom of a well person, he is perfectly rational, but for humane reasons he has not been sent to his home, as I feared that his usual supply of substantial hospital food might not be forthcoming under the parental roof.

These cases are comparatively rare. At the time of the operation we did not know that any case had been successful; since that time two cases have been found. The first is recorded in vol. vi., p. 596, of the "International Encyclopædia of Surgery," edited by Professor John Ashhurst, Jr.,[1] and is credited to Professor Annandale.[2] In this case the patient was three years of age, the operation proving a perfect success. Drainage was employed.

The second case is reported in *The Lancet* for 1894, vol. ii., No. 2, the operation being performed by Pollard, of London, upon a child one month of age, with a perfect result. Nothing is said of drainage in this case, and the inference is that it was not employed. The results in these cases would appear to indicate that the unfavorable outcome of the operations referred to below by Mr. Curling, were due to constitutional troubles rather than to faulty technique, or to the age of the patients.

Professor Samuel D. Gross[3] mentions a few instances of the condition, but on account of the uniform failure of all operative procedures devised for its relief, he advises castration as the only rational treatment.

On page 52 of Mr. Curling's great work on "Diseases of the Testis," is found an admirable illustration of a left testicle lying in the ischio-rectal region. The left scrotal bag is absent. The same author reports some instances where the attempt has been made to transfer the testicle from its position in the perineum to the scrotum, but all the cases were unsuccessful. Mr. Curling operated upon an infant at the London Hospital, in November, 1865, and in 1871 assisted Mr. James Adams in the case of a child of eleven weeks, both cases resulting fatally. Commenting upon these cases, he says: "The results of these last two operations do not afford encouragement to a renewal of such attempts, to transfer the testicle from the perineum to its proper position at the early period of life."

In the adult the absence of the scrotal pouch precludes the possibility of success, and "on this account," says Mr. Curling, "I was led to make the attempt to transfer the testicle by operation soon after birth, before the scrotal pouch had undergone the wasting which ensues from the absence of its proper contents."

The age of my patient (thirteen years) would appear to indicate that the scrotum undergoes no degenerative changes before puberty, since the left pouch was as capacious and in all respects as normal as its opposite fellow, save only the defect already noted. It would seem, therefore, that in these cases operation might be safely postponed until shortly before puberty, without fear of scrotal wasting.

One feature of my operation has been withheld for purposes of emphasis. The author last quoted mentions the contraction of the cremaster as influencing unfavorably the result in certain cases. This suggestion led me to remove carefully all traces of the muscle, and this precaution should be an essential part of the technique of all similar procedures. It is as yet too early to predict anything touching the future of the transferred testicle, but as the gland and cord were protected from injury, there is no reason to suppose that their functions will not be carried on physiologically after puberty.

COLUMBUS MEMORIAL BUILDING, January, 1895.

[1] New York, William Wood & Co. 1886.
[2] British Medical Journal, vol. i., p. 7. 1879.
[3] System of Surgery, vol. ii., p. 800.

TWO CASES OF FOREIGN BODIES (PINS) FOUND IN THE APPENDIX.

BY ROSWELL PARK, A.M., M.D.,

PROFESSOR OF SURGERY, MEDICAL DEPARTMENT, UNIVERSITY OF BUFFALO, N. Y.

OPERATIONS for appendicitis and for peri-appendical abscess have become so frequent that there is very little of special interest attaching to the ordinary case. The literature of foreign bodies in the appendix, however, is one which may certainly be enriched, and I think will be by a brief recital of the two following cases:

CASE I.—A girl, aged fifteen, in the practice of Dr. Gillette, of Cuba, N. Y., had complained for a number of months of vague and indefinite discomfort in the right iliac region. Finally, she was taken with symptoms of unmistakable acute appendicitis, and developed considerable temperature and febrile disturbance. The doctor was alert to the propriety of operation, and called me in consultation. With him I saw the case January 5th, and, in spite of falling temperature and general amelioration of symptoms, I advised operation, basing this advice mainly on a somewhat œdematous condition of the tissues in the neighborhood and rigidity of the abdominal muscles. On the following morning the operation was made with the assistance of Drs. Gillette, Allen, and Thomas, of Cuba, N. Y.; incision was made parallel to Poupart's ligament—my customary incision. Not far from the surface pus was reached, and a cavity was entered which contained three or four ounces of offensive pus. My finger in the cavity detected a sharp point, and identified it as belonging to a pin or a needle, after which without difficulty the foreign body was withdrawn by a pair of forceps and found to be a common pin. In the cavity and through the opening made the appendix itself was not seen nor found, and it seemed to me unwise to enlarge the incision or disturb tissues further to find it, it being my usual habit (to which, of course, exceptions are made), when the appendix is not found with reasonable ease, to leave it, although I know that this course is open to criticism. Nevertheless, in this instance, I contented myself with disinfecting the cavity, draining it, and partially closing the wound. Recovery was uneventful.

CASE II.—A patient, thirty-two years of age, was brought to the Buffalo General Hospital, January 25th, from Shortwell Creek, Potter County, Penn. In this case there was a history of indefinite discomfort in the right iliac region, which patient says he has noticed for at least five years. The acute attack dated back exactly one week. When brought to the hospital there were signs of extensive abscess, and the patient's general condition was bad. There was no doubt as to the presence of pus. This case was operated on immediately after his entrance by my house surgeon, Dr. Jones. In this instance the abscess cavity was widely opened; the appendix was found and tied off. In the inside of the appendix was found a fæcal concretion, three-fourths of an inch long, the diameter of a pencil. Imbedded in this by its head end was a common house-pin, whose point protruded beyond it to the distance of half an inch. The abscess in this instance had burst into the peritoneal cavity, which was washed out, and drained for forty-eight hours, after which the patient proceeded to make an uneventful recovery. This patient denies all knowledge of having ever swallowed a pin, and was as surprised as anyone at its discovery.

The coincidence of two such cases within one month seems to be noteworthy, and the cases themselves are considered of sufficient interest to justify report.

FIBRO-CYSTIC OVARIAN TUMOR—DOUBLE PEDICLE—FIBROMA OF THE UTERUS—OPERATION—RECOVERY.

By WITTER K. TINGLEY, M.D.,

SURGEON AND GYNECOLOGIST TO THE BACKUS HOSPITAL, NORWICH, CONN.

Miss Kate D——, aged thirty-five; Ireland; operative, thread-mill, Willimantic, Conn.; admitted to hospital April 1, 1894. The history in brief is as follows:

Had always enjoyed fairly good health; able to earn her living; never had had any severe or lasting illness. Menstruation always regular, lasting five days and not attended with any pain or discomfort. About fifteen months before admission she began to have headaches, pain and discomfort after eating; lost flesh and color. Her menstruation became very irregular and scanty. I found the abdomen very much enlarged, about the size of a woman at full term; the growth was smooth, except at one spot just over the pubic bone, where it was distinctly nodular and uneven. Vaginal examinations revealed only the mass distending the pelvis, the uterus pushed up almost beyond reach. Fluctuation could be faintly made out both by external and internal examination. An exploring needle thrust into the growth failed to obtain any fluid. It was decided to operate, but to wait awhile, as the woman's general condition was very bad. But instead of improving the woman's condition kept getting worse, the temperature going to 103° F. each day; pulse to 120. I determined that if anything was to be done it must be done at once, and accordingly on April 11th I operated, assisted by Drs. L. B. Almy and P. Cassidy, Dr. John Logue giving the ether. When everything was relaxed from the anæsthetic and while I was making the abdomen surgically clean, it could be seen that the tumor below was decidedly different from the main or large growth. This was shown immediately I made the exploratory incision. This incision was four inches long from the umbilicus down. The small tumor was then seen to be a fibroid of uterus, above the smooth, shining capsule of the ovarian growth. I plunged a trocar into the latter, but failed to get any fluid. The capsule was very thin and friable, tearing where the trocar entered, showing the contents to be made up of quantities of very small cysts held together by fibrin tissue.

There were two pedicles, one attached to the broad ligament and uterine tumor, the other to the pelvic wall. I tied off the latter, but finding that the one attached to the uterus was so intimately blended with the fibroid, I determined to perform hysterectomy as well as ovariotomy. The time of the operation was one hour and ten minutes.

After the operation the patient's condition was better than when she was placed upon the table. The temperature never went above 99½° F. during the entire convalescence. The pulse, immediately after the woman was placed in bed, was 120, but of fair character. The second and third days were very trying ones, the exhaustion being great, the pulse going to 160. The stump was dressed with chloride of zinc solution twice a day, and came away without any odor, and very little, if any, discharge on the seventeenth day. Patient left the hospital fat and well. The growth proved to be a fibro-cystic ovarian tumor, made up of thousands of small cysts held together by firm fibrous bands, very vascular, and forming a firm, dense net-work. I should certainly have lost the patient if I had tried to break up the cyst contents. An important point also is the woman's condition at the time of operation. It shows how often life might be saved in cases seen so late in the disease, where the general health has been so completely undermined and the conditions most unfavorable to a successful operation. Many women (in the country) are allowed to die without an attempt at an operation, simply because they will not go to a large city, and there is no one in the neighborhood that wishes to risk his surgical reputation upon them. If my patient had been sent to some distant city to a famous operator, with all the fatigues of railways, examinations, and hospital, she never would have lived to be operated upon.

GANGRENE OF FOOT—AMPUTATION BELOW THE KNEE—RECOVERY.

By WITTER K. TINGLEY, M.D.,

SURGEON AND GYNECOLOGIST TO THE BACKUS HOSPITAL, NORWICH, CONN.

Mrs. P——, aged seventy-four, in poor circumstances, had undergone much privation and suffering. During the cold weather she thought she frosted the toes in the left foot. From that time she had great pain, and soon the foot from the scaphoid bone down became gangrenous. I saw her some weeks after the foot became affected. My examination revealed dry gangrene of the lower half of the foot, with the line of demarcation well defined. Although she had been refused operation by several surgeons, who declared that she never could stand the only justifiable operation, that is, amputation above the knee, I decided to give her the benefit of the doubt, and accordingly performed the operation that same afternoon, taking the leg off just below the knee, doing it very rapidly, so that she was under the anæsthetic only a short time. Everything went well, except some pain in the stump, and some little elevation of temperature, with great restlessness.

When I took down the dressings to remove the stitches, I found what had caused the pain. The anterior flap was black and moist, having a most peculiar musty odor. It certainly looked as though the disease had returned in the stump. Without any hopes of good results I ordered all the usual dressings stopped, and sterilized gauze soaked in bromine substituted, to be applied twice a day, the stump to be carefully washed at each dressing with bichloride solution one in two thousand. The result was really surprising. Gradually the black spot looked more and more healthy, the dark appearance grew less and less, healthy granulations started up, and in four or five weeks the stump was white and all healed, the anterior flap that at the time of operation was thin and flabby now being plump and firm. I think it only fair to attribute this result to the bromine, for that was the only thing applied. The woman returned to her home and six months after was perfectly well and happy. Considering her age and disease I think the result a very good one.

STRANGULATED INGUINAL HERNIA, OMENTAL—PERITONITIS.

By WITTER K. TINGLEY, M.D.,

SURGEON AND GYNECOLOGIST TO THE BACKUS HOSPITAL, NORWICH, CONN.

William T——, aged twenty-one, lumberman, admitted to the Backus Hospital with the following history: Had always been a strong, healthy man, though the hernia had existed for several years. It was distinctly the result of lifting heavy pieces of lumber, and he never felt "safe" afterwards. Had never worn a truss, though advised to do so by his physician. Three days before admission, while lifting a log, he felt something give way in his left side and knew that his "rupture" was down. As he was in great pain, a physician was called, who made some unsuccessful attempts at reduction. I saw the man on the third day of the

strangulation, at the hospital. Found that his condition, from loss of sleep and pain, was bad. Temperature, 101½° F.; pulse, 115; small and thready; respiration rapid and shallow. An extremely tense mass completely filled the left side of the scrotum, which was swollen and painful to the touch. I made the usual incision for hernia, and found that the tumor consisted of omentum; the sac was filled with serum and blood-clots that had escaped from the ruptured blood-vessels in the omentum. The mass was as large as two fists doubled up together, and very tightly constricted at the ring. Not deeming it wise to return so damaged a piece of omentum to the abdominal cavity, I amputated it, and pushed back the stump. Considerable serum with some inflammatory products escaped from the abdomen during this part of the operation. I drained the wound with a tube, as there was considerable discharge. The patient rallied after the operation and slept most of the afternoon. Temperature at 5 P.M., 100° F.; pulse, 120. Complained of very little pain. At ten o'clock the same evening the conditions became suddenly much worse—a severe chill, followed by temperature of 105½° F., pulse 140, and respiration 35. Great pain in abdomen, and evidences of general peritonitis. I immediately ordered sulphate of magnesia in drachm doses every hour till action ensued, morphine just enough to keep down the pain, and stimulants when necessary. After sixteen drachms of the salts had been administered a very copious discharge from the bowels took place, and was followed in short order by four more. In a short time the temperature went down to 99½° F., pulse to 95, respiration to 25. Abdominal tenderness all disappeared, and the patient made a good recovery in spite of an attack of acute lobular pneumonia on the fourth day.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DEATH OF THE PRESIDENT OF THE COLLEGE OF SURGEONS, MR. J. W. HULKE, F.R.S.—HIS HUNTERIAN ORATION READ FOR HIM DURING THE FATAL ILLNESS—HIS WORK—HIS ESTIMATE OF HUNTER—HEALTH OF LONDON—SMALL-POX—INFLUENZA.

LONDON, February 23, 1895.

THE President of the Royal College of Surgeons has died during his term of office—a coincidence with the similar loss which the sister college sustained some fifteen months ago. The name of J. W. Hulke, F.R.S., was known wherever surgery is cultivated, and many who knew him well little anticipated that his career would so soon close; for, although by no means robust, he was possessed of a considerable share of health and a great amount of scientific energy and enthusiasm. He was to have delivered the Hunterian oration at the College on the 14th instant, and had fully prepared it, but when the day arrived he was on his deathbed, and his tribute to Hunter was read by Mr. Bryant. Like many who knew him, I was not aware that he was indisposed. On the 10th and 11th he was at his hospital (the Middlesex), although he had a cold and, one might say, some bronchitis. This increased, pneumonia set in, and he died on Tuesday (19th). The cold he caught was contracted during a visit to the hospital on one of the bitter nights we have lately endured, in response to a call to operate for hernia. He has thus died, so to say, in harness. Had he foreseen the event he would not have flinched, for he was always ready to sacrifice himself to duty. Mr. Hulke was an excellent president. His views were conservative and he was against the aspirations of fellows and members to share in the conduct of the college, but his stanchest opponents respected him for the straightforward and eminently fair manner in which he opposed them. Much of his work was devoted to ophthalmic surgery. He was for many years surgeon, and afterwards consulting surgeon, to Moor Fields Hospital, and contributed some of his best scientific work to this specialty, although he never relaxed his hold on general surgery. He had been president of the Ophthalmological Society, as well as of the Pathological Society. This year he was president of the Clinical Society and librarian of the Royal Medical and Chirurgical Society. He was also chairman of the laboratories committee of the conjoint colleges, and held in his time many other official positions.

Mr. Hulke was not only a skilful and learned surgeon, but made a name in other scientific work. Thus he was a naturalist of mark, and, as a result of his researches in geology, had been foreign secretary and president of the Geological Society, by which he was also awarded, in 1887, their highest distinction, the Wollaston gold medal.

It will thus be seen that Mr. Hulke was a man of broad scientific culture, and many other acquirements might be named, but it is as a surgeon that a medical journal must naturally speak of him, and as such it is not too much to say that he was universally respected, and his opinion in difficult cases most highly esteemed; while as an operator he was extremely careful and avoided all show, although his precise anatomical knowledge might have justified an attempt at brilliancy more than in the case of some well-known but rather incautious surgeons.

The meeting of the Clinical Society which was due last night was postponed until March 1st, as a mark of respect to the lamented president. At the Pathological Society the loss sustained by the death of a former president was the subject of some appropriate opening remarks. The funeral takes place to day. I had intended to send you rather a full report of Mr. Hulke's Hunterian oration, but in view of the shock caused by his untimely demise, will confine myself to a few words about it. Hunter was regarded as a biologist in the widest sense, and his work as such illustrated by examples from both the vegetable and animal kingdoms. Many of his experiments, observations, and discoveries in botany, are but little known among surgeons, but Mr. Hulke's own familiarity with this branch of study was sure not to pass by such work when reviewing the labors of the great anatomist and surgeon. Then the foremost rank among original investigators in zoology was vindicated for Hunter, by references to his researches on the "General Principles of the Blood," and those on the "Vascular System," and on "Digestion," "Absorption," and "Nutrition." Hunter's remarkable memoir on the "Life History of Bees," which is an ever-charming bit of reading, illustrates his excellence as a naturalist, and so his account of the development of the chick shows his grasp of embryology. Both these illustrations were drawn upon in the oration, and it was remarked that we find Hunter enunciating the principles of the inherent variation of species, the modifying influences of environment, the transmissibility of variations and evolution from lower to higher forms. In fact, it appears, from those of his papers which escaped destruction, that his mind was often engaged on the problems of evolution, which have in our days excited so much controversy.

Mr. Hulke's design was to present Hunter as a biologist in the widest sense of this now much used word, and for this purpose he made large use of his own words, for these, he held, best show his mind, and "the mind is the man."

The increase of deaths caused by the intensely bitter cold is not yet manifest by the returns, but will appear, no doubt, later. With the abatement in the severity which has at length come, and we may hope will stay, there seems to be a renewed prevalence of influenza.

It is perhaps doubtful whether most of the cases so named are not rather instances of sharp inflammatory cold due to exposure to atmospheric influences, and which are just as likely to pass into bronchitis and pneumonia. There is no increase of the latter, in the returns last issued.

There was only one death from small-pox last week, and that in an unvaccinated person. The fresh cases had fallen to eight in the week.

New Instruments.

A NEW AXIS-TRACTION FORCEPS.

By R. W. FISHER, M.D.,

SALT LAKE CITY, UTAH.

As the subject of axis-traction forceps seems to be attracting some attention at present, I wish to present a modification of the old Hubert forceps, which I have been using for the past two years. Dr. T. J. McGillicuddy's attachment is in the same line, and while neither he nor I can claim much originality, yet either modification is an improvement on the old Hubert. I read a paper before the Salt Lake Medical Society, November, 1893, in which I went over much the same ground as that covered by Dr. McGillicuddy before the New York Academy of Medicine, November, 1894. The difference between his and my attachment, is that he converts the forceps into a lever, while in mine it is a straight pull in the axis of the inlet.

My attachment can be applied to any forceps without any change in the construction of the instrument. It consists of a steel bar eight and one-half inches long, with a slot in one end as seen in Fig. 1.

FIG. 1.

The slot is so made that when applied it forms an angle of 85° with the forceps. It fits on just below the lock, as shown in Fig. 2. From a practical standpoint, this

FIG. 2.

little attachment is very useful, as I know from experience in my own practice. Theoretically, it also fills the indications. Fig. 3 is used by most authors to demonstrate the planes and axes of the pelvis. If we increase the size of the diagram so that the diameters will correspond to normal in the static pelvis, measure the angles and have them mathematically correct, we will have what is supposed to represent the axis of the inlet as it occurs in the living woman. Now, if we lay the forceps on this diagram, it should give us the position in which they are when applied to the fœtal head. With my attachment, the axis of the inlet, if continued, would cross the bar at about four inches from where it is attached to the forceps. If the attachment were on the end of the handles, the axis

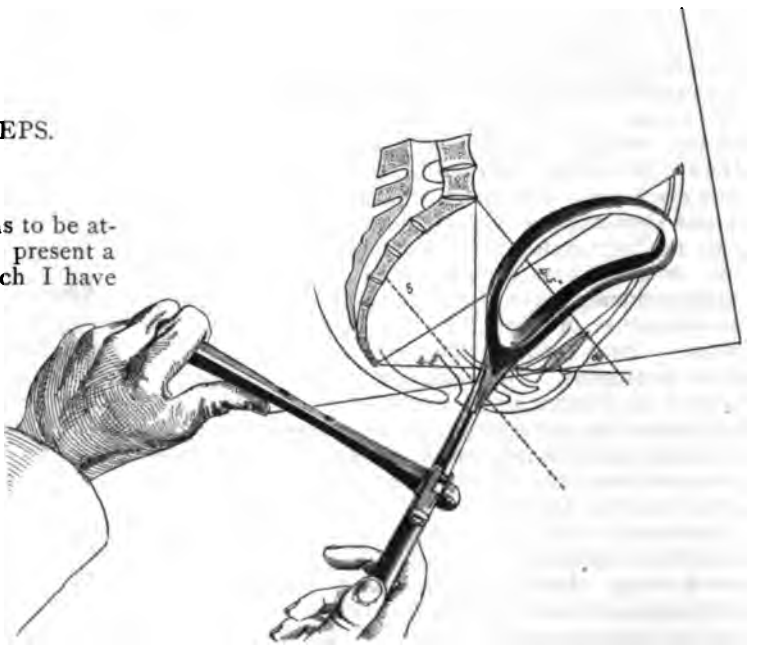


FIG. 3.

would cross the bar about eight inches from the forceps, if the handles are only four inches long.

We frequently see diagrams on a small scale which demonstrate, or are supposed to demonstrate, that the pull is in the axis of the inlet, but if they are drawn to scale with the normal diameters, we find that the traction is not always as it should be.

What I claim for this attachment, is that it can be applied to any forceps. That it is cheap. That the force is applied nearer the resistance than in any other method. The thumb-screw is not essential and can be omitted, as I did in the instrument I now use.

A SURGICAL NEEDLE ESPECIALLY ADAPTED FOR CATGUT.

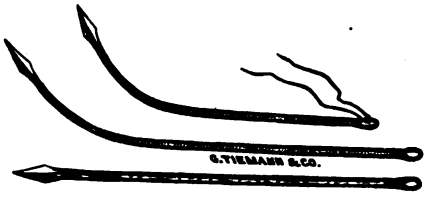
By HENRY FLOOD, M.D.,

ELMIRA, N. Y.

HAVING used catgut extensively for a number of years, I have had excellent results by using the larger sizes; No. 3 being the size I prefer. All of my failures have been by using the smaller sizes for sutures, which often dissolve before firm adhesions have taken place. The sole objections I have found in the use of the larger sizes of catgut are, that it is difficult to find a needle with an eye large enough to be easily armed, and then, after the needle is armed, the doubled catgut at the eye of the needle is so thick that it sticks after the point and shank of the needle have passed through the tissues.

I have had George Tiemann & Co. make some needles which, from practical use, I have found completely overcome these objections. The needle is made after the plan of a spear. The point is lance-shape with cutting edges. It is made broader than the shank, and sufficiently wide to make a puncture large enough for

the doubled catgut at the eye of the needle to pass readily through. The shank is made nearly square, being flattened somewhat, so that a needle-holder can get a firm grasp and the needle cannot turn in the holder. The eye is made large and somewhat oblong, so as to be easily armed, and the needle at the eye is flattened so the doubled catgut will take up as little space as possible.



There are three shapes: The straight needle, the semi-curved, and the full-curved needle. The full- and semi-curved needles are made, commencing at the eye, with a straight shank for a distance long enough to give a firm grasp for the needle-holder, they are then curved.

My experience with the needle is that it passes through the tissues so easily that suturing can be done by hand, and that it is very seldom necessary to use a needle-holder.

MODERN MEDICAL AND SURGICAL CHEST FOR MILITARY USE.

DEVISED BY N. SENN, M.D.,

CHICAGO, ILL.

SURGEON-GENERAL NATIONAL GUARD ILLINOIS; EX-PRESIDENT ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES; PRESIDENT OF THE ASSOCIATION OF MILITARY SURGEONS OF ILLINOIS.

IN the construction of this chest the author has sought to supply only such articles as are necessary in the modern treatment of medical and surgical cases, arranging them in the smallest possible space consistent with convenience.

FIG. 1.—Showing Chest with Cover Elevated and One Box Removed.

The present outfit in use by the United States Army consists of two wooden, brass-bound chests, each 15 × 15 × 23 inches, the two weighing 185 pounds. The medicines, both fluid and tablets, are contained in ordinary French square glass bottles, each bottle enclosed by a wooden partition, these partitions arranged in drawers and the drawers surrounded by proper framework, the latter constituting the body and partitions of the chest. It will readily be seen that the actual space occupied by the tablets contained in any one of these drawers, provided they were placed in a solid mass, would be but a small percentage of the room occupied by the drawer and its surrounding woodwork. Not only does this system require several times as much space as is necessary, but the weight is increased many fold.

To obviate these difficulties all remedies in tablet form are contained in tablet boxes, as shown in the illustration. These boxes are made of aluminum, in the ordinary form of slide powder-boxes, so arranged that the inner portion can only slip in one direction, and then only for the space of one inch (thus effectually preventing the accidental spilling of contents), while a paper lining prevents the medicinal substances from coming in contact with the aluminum. In addition to an inner descriptive label, each box is stamped with the name of contents, and also with a number. The latter facilitates the selection of the remedy wanted, as a list of tablets, alphabetically arranged in a table of contents is supplied with the chest. These boxes are of two sizes, designated large and small, the former containing about 300 two-grain tablets and the latter about 200.

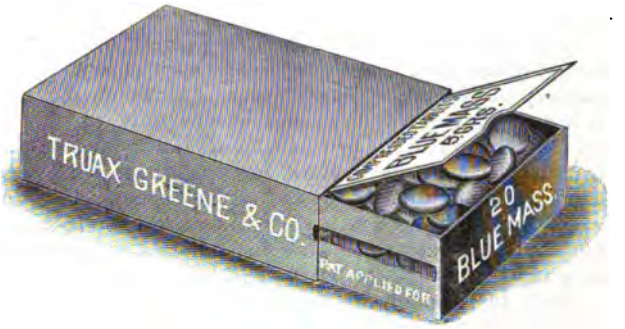


FIG. 2.—The Truax Tablet Box.

The fluid medicines are principally contained in metal bottles, each spun from a single piece of aluminum. Tightly-fitting corks are supplied, each held in place by a metal clamp, on each of which is stamped the name of the contents. An illustration of this package, herewith, exhibits its advantages.

FIG. 3.—Aluminum Bottles for Fluids.

It is evident that the present United States Army outfit is not only much larger and heavier than necessary, but being composed of wood it is easily broken, subject to the action of rain and climatic changes, and in many ways undesirable. The chest here illustrated is 12½ × 12½ × 19 inches, weighs with contents 76 pounds, and contains practically all that may be found in the two above referred to. The wooden framework of the United States Army chest is here replaced by leatherine, heavily shellacked, thus rendering it impervious to water. Outside the leatherine is laid a sheet of aluminum, the joints of which are set in white lead, that the chest may be as nearly waterproof as possible. The body of the chest is held in place by a skeleton frame of untempered steel. To this framework the sides, ends, bottom, and top are firmly riveted with brass rivets one inch apart. An inner lining of aluminum extends around the chest, having a space between it and the leatherine of about one-fourth inch. When complete, this space is filled with felt and wire gauze, either of which may be used for splint material. This filling also provides a semi-elastic lining, thus assisting in preventing breakage of contents in concussions. Strong wrought-iron handles have been provided, that the chest may be packed on horses or mules for mountain transportation. This chest not only possesses a degree of lightness not found in other combinations, but it is practically imperishable and unbreakable. It is capable of being

bent and straightened into form to a very large degree, and it will, without injury to its contents, withstand an amount of misuse that would completely demolish a chest of wood or similar material.

The contents of the chest are arranged in nine compartment-boxes, each provided with a cover and each resting on end, so that the removal of one may not disarrange the entire number. These boxes are of unequal width, thus "breaking joints" in the arrangement. Each is numbered, that no difficulty may occur in replacing them in their proper position. The cover of one is two inches deep, with soldered joints, that it may be used as a wash-basin. In addition to this a soft-rubber basin, 5 × 9 inches, is included in the contents.

The dressings, plasters, and in fact all articles comprising the outfit, are compressed into the smallest possible space consistent with the nature of the article.

The author's pocket operating-case is a model of compactness, and represents modern ideas, not only in surgery but in surgical mechanics. Although the case is but 1⅛ × 2½ × 5 inches, and weighs only 19 ounces, by consulting the list of instruments it will be seen that it contains seven hæmostatic forceps, gouge for operations on the skull, forceps and probes necessary for the extraction of bullets, a periosteal elevator, bone-scoop, combined catheter, and such instruments as are necessary in amputations or battle-field laparotomies.

Such instruments as require locks are constructed with the new aseptible design that permits of the speedy separation of the blades and an accurate adjustment when in use. The knives are forged from a single piece of steel, and are of the highest possible quality and finish. The case containing the instruments is manufactured of German silver with well-rounded corners and edges. The racks containing the instruments are removable, that the case may be used as a tray to be filled with antiseptic fluid.

Author's Pocket Operating Case.

While the author contemplated in the construction of this case the performing of any operation with the knives therein contained, an additional knife with a large blade has been provided. The handle of this knife is designed so that the blade may be easily separated for cleansing, and a saw-blade has been furnished that may be attached to the same handle.

No pains have been spared in the selection of the various articles contained in this chest to furnish the most desirable instruments and supplies, regardless of price. All articles are carried in stock by the manufacturers in packages of the same size and form as those contained in the chest, so that duplicates that will fit the spaces may be secured at any time.

The author's pocket operating case contains:

- 2 Kocher's artery forceps.
- 1 Spring dressing-forceps slide-catch, 3 teeth.
- 1 Spring dressing-forceps slide-catch, 5 teeth.
- 1 Straight scissors.
- 2 Exploring trocars.
- 2 Double retractors, sharp and blunt.
- 1 Gouge for operating on the skull.
- 2 Serresfins.
- 1 Bulldog artery forceps and needle-holder.
- 1 Director and tongue-tie.
- 1 Little's saw.
- 1 Scalpel.
- 1 Straight sharp-point bistoury.
- 1 Curved, sharp-point bistoury.
- 1 Curved, blunt-point bistoury.
- 1 Tenotomy knife.
- 1 Aneurism needle.
- 1 Tenaculum.
- 1 Fenestrated bone-scoop and periosteotome.
- 1 Ear-hook and curette.
- 1 Pair of Senn's bullet-probes, porcelain heads for No. 22 and No. 38 calibre bullets.
- 1 Male and female catheter.
- ½ Dozen straight triangular needles.
- ½ Dozen straight round needles.
- ½ Dozen assorted curved needles.
- 4 Sizes silk on metal cards.
- ½ Dozen silkworm gut ligatures.

The above contained in a solid German-silver case with removable trays. All instruments with aseptible handles and joints.

The following is a list of contents of chest:

Surgical Instruments.

- 6 Catheters.
- 1 Caustic-holder, aluminum.
- 1 Set metal cuppers, 3 in set.
- 1 Hypodermic syringe in upright metal case.
- 1 McLean's amputating knife.
- 8 Ligatures, catgut.
- 2 Cards assorted ligatures, silk.
- 1 Dozen needles and needle-holder.
- 1 Soft-rubber pus-basin.
- 1 Razor-strop.
- 1 Heavy rubber bandage.
- 1 Saw to fit knife-handle.
- 1 Scissors.
- 1 Stethoscope.
- 1 Stomach-tube.
- 1 Senn's pocket operating-case.
- 1 Fever thermometer.
- 1 Tongue-depressor.
- 3 Tooth forceps.
- 1 Chain tourniquet.
- 1 Transfusion-tube.

Dressings, Plasters, Etc.

- 100 Antiseptic tablets.
- 4 Bandages, Esmarch's.
- 4 Bandages, flannel.
- 2 Pounds bandages, roller.
- 1½ Pound cotton, absorbent.
- 3 Yards drainage-tubing.
- 4 Esmarch's first-aid packages.
- 10 Yards gauze, corrosive sublimate.
- 8 Yards gauze, iodoform.
- 1 Pound jute.
- 1 Box iodoform, sprinkler top.
- 1 Yard muslin, in sheet.
- 5 Yards paper, dressing.
- 1 Paper pins.
- 3 Dozen safety-pins.
- 40 Yards plaster, adhesive.
- 1 Yard blister plaster.
- 10 Yards plaster, Isinglass.
- 2 Yards plaster, mustard.
- 2 Pounds plaster Paris, splint material, wire and felt.
- 10 Sponges.
- 1 Piece tape.

Miscellaneous.

- 1 Hand-brush.
- 6 Candles.
- 1 Corkscrew.
- 1 Metal medicine-cup.
- 2 Goggles.
- 1 Graduate.
- 1 Lantern with oil.
- 1 Copy Carpenter's "Medicine."
- 1 Sail-needle.
- 1 Pencil, indelible, with leads.
- 12 Pencils, camel's-hair.
- 1 Heavy shears.
- 1 Spatula.
- 1 Pocket stove.
- 1 Copy Pilcher's "Surgery."
- 3 Suspensories.
- 1 Bulb syringe.
- 1 Fountain syringe.
- 6 Penis syringes.
- 1 Metal tape-measure.
- 1 Teaspoon.
- 1 Set universal towels.
- 2 Towels.

Sundry Drugs and Supplies.

- 8 Ounces carbolic acid.
- 8 Ounces alcohol.
- 8 Ounces concentrated ammonia.
- ¼ Pound beef extract.
- ¼ Dozen bottles, prescription and corks.
- 1 Dozen boxes for ointment.
- 1 Lot labels for prescription bottles.
- 4 Ounces magnesia sulphate.
- 1 Pocket medicine-case, filled.
- 1 Dozen nitrate of amyl, pearls.
- 1 Pound petrolatum.
- 1 Block prescription blanks.
- 1 Reagent-case.
- 8 Ounces castor-oil.
- 8 Ounces chloroform.
- ½ Dozen corks, large.
- 1 Block diagnosis-tags.
- 1 Lot envelopes for tablets.
- ½ Ounce iodine.
- 3 Packages salt for transfusion.
- ½ Ounce silver nitrate.
- 4 Packages soda carbonate, for sterilizing.
- 8 Ounces soap, castile.
- 8 Ounces turpentine.
- 8 Ounces whiskey.

Compressed Tablets.

- Acetanalid.
- Acid, arsenious.
- Acid, boric.
- Acid, tannic.
- Alterative.
- Ammon. chloride.
- Antipyrine.
- Bismuth. subnitrat.
- Blue-mass.
- Cafbromalid.

Calomel.	Morphine.
Camphor and opium.	Nitro-glycerine.
Capsicum.	Peptic.
Cathartic comp.	Phenacetine.
Chloral.	Podophyllin.
Capaibic comp.	Potassium, bromide.
Cough.	Potassium, chlorate.
Croton oil.	Potassium, iodide.
Diarrhœa.	Quinine.
Digitalis.	Salol.
Dover's powder.	Soda, bicarbonate.
Hypodermic, six varieties.	Soda, salicylate.
Ipecac.	Tonic.
Lead acetate.	Zinc, sulphate.
Liniment.	

TABLETS FOR HYPODERMIC USE.

Apomorphine, hydrochlorate.	Morphine, hydrochlorate.
Atropine, sulphate.	Pilocarpine, hydrochlorate.
Cocaine, hydrochlorate.	Strychnine, sulphate.
Ergotine.	

OPHTHALMIC DISCS.

Atropine, sulphate.	Eserine, sulphate.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 9, 1895.

	Cases.	Deaths.
Typhoid fever	7	2
Scarlet fever	115	15
Cerebro-spinal meningitis	0	5
Measles	159	13
Diphtheria	196	37
Small-pox	2	0

A Daily Medical Journal occasionally appears upon the horizon but does not stay there long. Philadelphia is the latest home of daily medical journalism. *The Daily Lancet* is edited and published by Dr. Joseph F. Edwards.

What Doctors Die From.—An abnormally high death-rate from tuberculosis is reported to exist among medical men in Russia—fifteen per cent. of the whole number of deaths being assignable to that cause. Zelande has lately presented some most valuable statistics calculated for three years, upon a consideration of the whole profession, some fifteen thousand odd. Nearly thirty-three per cent. of deaths were due to virulent diseases—pyæmia, typhus, cholera, diphtheria, etc. The prevalence of suicide—over eight per cent.—too, is strange. The *Medical Press* suggests poverty as a possible cause for this self-destruction; and in harmony with such an inference is the French experience that a large majority of suicides is due to want or fear of want. Perhaps the most satisfactory feature of the vital statistics of physicians is the statement of Bertillon, that though medical men do not apparently enjoy longer life than many others, their children display a singular immunity from disease.—*Medical Magazine.*

Medical Freemasons in New York.—In the Kane Lodge, of New York, says the *New York Medical Journal*, there are perhaps more medical brothers than in Æsculapius Lodge, of London. This seems eminently appropriate, as the lodge was named in honor of Dr. Elisha Kent Kane, of the United States Navy, the arctic explorer, and its membership, which includes some of the most prominent men in clerical, legal, scientific, financial, and commercial circles, would be incomplete but for representatives of the medical profession whose names are known and honored wherever the English language is spoken. This is not surprising, for those that are Masons can easily recognize how the principles of Freemasonry would appeal to a medical man.

The Medical Faculty of the University of Paris opened its doors to women in 1868, but at first only a very few availed themselves of the privilege thus offered. In 1878 the number in attendance was 32; during the next ten years (1878 to 1888) it increased to 114, and is at present 183, of whom the great majority (167) are Russians. The remainder are Poles, Rumanians, Servians, Greeks, and Scotch, and only one German.

The Doctors of the National Guard of the State of New York.—From an officer of one of the regiments we have received a letter in which he says that it seems to him that at this time it is very appropriate to have some mention made in the medical journals of the medical officers of the National Guard. He does not think that the general public is aware of the sacrifices they have to make—unless it may be their patients whom they have to neglect during their absence. He says that in his experience he has found the surgeons particularly attentive, not only to their medical duties, but also to their military duties. They are always, he testifies, exceedingly faithful, and their moral support to the commanding officer is much greater than is supposed. There is no member of the staff, he adds, to whom the commanding officer can so readily appeal as to his surgeon. The surgeons help him in the discipline of his command, and of course in the sanitary and commissary departments they are invaluable. Every article of food is passed upon by the surgeons, the cleanliness of the posts comes under their observing eyes, and they share with the rest of the command every danger.—*New York Medical Journal.*

Senator Gallinger on Antitoxin Again.—An editorial writer in the *Boston Herald* of February 6th, in speaking of Senator Gallinger's views on the future of antitoxin, made the following statement: "It is shockingly bad taste that Senator Gallinger, of New Hampshire, displays in speaking slightingly of the medical profession, of which he is the sole representative in the United States Senate. In voting an appropriation for the production of antitoxin in the District of Columbia, his lay associates in the Senate showed considerably more respect for the science of medicine than the one person in that body to whom the public would most naturally look for an intelligent action on this subject." The Senator writes in defence of his position that he is in good company in his views, having on his side Dr. Hansemann, of Berlin, assistant to Professor Virchow, "the dean of modern pathology." The *Boston Medical and Surgical Journal* criticises Dr. Gallinger for calling Virchow a "dean." Our contemporary shows unexpected limitations in its vocabulary. The eldest man in any branch of learning or profession is often termed its "dean" by way of courtesy.

Preparing the Antitoxin.—On October 12th, the Pasteur Institute possessed for immunizing purposes a stud of twenty horses. This stud has now been increased to one hundred and thirty-six horses, a total that will probably be ultimately increased to the maximum of 150. Fifteen of these animals are at the State Veterinary School of Alfort, where they are kept under close observation (with regard to pulse, temperature, etc.), by Professor Nocard and his pupils. Forty-two horses are located in the old abattoirs of Grenelle placed at M. Roux's disposal by the Municipal Council of Paris. Of these, twenty are kept by the municipality at a cost of 20,000 francs ($4,000) a year for the benefit of the Paris hospitals and poor. At Villeneuve-l'Étang—a property ceded by the State to M. Pasteur in 1886—there are seventy-nine horses cared for by a capable veterinary surgeon and his staff. While the regulation

six litres of blood (yielding about half that quantity of serum) are being drawn from the jugular vein, the animal's attention is easily distracted by a handful of carrots, which he munches contentedly. On the day following the phlebotomy immunization is recommenced and continued for five days. A rest of fifteen days follows, and then another bleeding may be practised. That the animals flourish under this *régime* of good feeding and periodical bleedings is proved by the presence in good health at Alfort of a sturdy Brittany pony which has hitherto supplied no less than four hundred and twenty litres of blood.

Raid on Ohio Druggists.—On February 14th, nine druggists of Cincinnati, O., were arrested at the instance of the State Dairy and Food Commission. The accused are charged with violating the drug section of the pure-food law. The arrests are the result of investigations which have been going on for the last six weeks. Dr. J. A. Sterritt has general supervision of the inspection of drugs for the department. Drug-stores in all parts of the city were visited, and samples of goods were obtained for analysis. In all between one hundred and seventy-five and two hundred samples were turned over to the department's chemist. Included in the lot is a wide variety of drugs and medicines. The work of analysis is far from completed, but of the samples so far examined about one-third are below standard or adulterated. Ohio is very keen on its drug and food adulterations, and it arrested some druggists for selling undistilled water. But it lets quack doctors riot through the State, because they have the "pull." Ohio will soon vie with Kansas as the zany among the States.

Trilbyismus.—Trilby has become a sort of epidemic like the mind-cure, the fifteen-puzzle, the Lottie Collins song, and other fads. To those who know literature the book is good, but not wonderful; to those who know hypnotism the book is silly; in a year or two it will be nearly forgotten.

Masturbation in Very Young Children.—In response to an inquiry several letters appear in the *British Medical Journal* upon this subject. Dr. Heywood Smith writes: "In reply to your correspondent 'Alpha,' who writes in the *British Medical Journal* of January 19th on this subject, both as to the age of the patient and the treatment of this terrible trouble, I write to say that the youngest case I ever saw was a child, aged two years, brought in its mother's arms to the Hospital for Women many years ago. The child was ailing and fretting, and its expression bordered on imbecility. I first of all ringed the clitoris, passing a silver wire through it and twisting it over a pen-holder. This had the desired effect for a time, as it prevented the child touching itself for a fortnight. At the end of that time, however, she began the old habit again, when I removed the ring and gave bromide of ammonium and tincture of Indian hemp, with the result that the child got quite well, the expression becoming quite rational." Mr. Alex. D. H. Leadman writes: "'Alpha' should try painting the clitoris and meatus with a twenty per cent. solution of cocaine; and if he will write to me I can supply him with several details too lengthy to occupy your space." M. R. C. P. writes: "Masturbation, judging from the testimony of intelligent anxious parents, can undoubtedly occur in a little girl aged eight or younger. It may probably occur as early in childhood as sucking the thumb, and with as little vicious intention. In the *British Medical Journal*, 1889, vol. ii., p. 1315, I referred to successful treatment by means of a 'cage,' secured in its place by lock and key, and worn at night or when the child is alone, so as to render the practice impossible. When any suitable case comes under my notice I continue to recommend such an appliance with good results. To prevent the mischievous first departure, caution should be adopted in regard to leaving little girls alone with big boys. Children, especially little boys, should not sleep with unworthy nurses."

Income of Washington Physicians.—A few weeks ago we mailed a letter to each of ten physicians of this city, whom we selected because of their wide acquaintance with the local profession. In this letter we requested answers to four questions, based on their observation during the past five years. Replies were received from eight, and with the exception of the answers to the fourth question, the remaining ones were remarkable in their close accord. The following are the questions and the average answers to the same: 1. What is the average professional income of the ten regular physicians of this city who have, in your opinion, the largest practices? $9,500. 2. What is the average professional income of the next one hundred physicians? $3,500. 3. What is the average income of all the regular physicians of this city? $2,000. 4. What per cent. of all regular physicians in the city do not derive a livelihood from their professional incomes alone? Answers to this varied from two to thirty per cent.—*National Medical Review.*

The Troubles Encountered in Colonizing Lepers are very great, in Louisiana at least. Indian Camp, where the Louisiana hospital for lepers has been established, is on the Mississippi River and in the parish of Iberville. The main building is a fine old plantation house. Gardens and woods extend on all sides of it, and the scenery is Arcadian. With eight cottages included, there are accommodations for one hundred lepers, but the present colony is much smaller, victims of the disease showing but little disposition to put themselves under the care of the State. The health officers have always found the task of isolating lepers a difficult one. The last time an attempt was made to inspect a settlement on Bayou Lafourche the lepers fled to the swamps, and there was no reaching them. The announcement of the authorities that the State Hospital is now open has filled the unfortunate victims everywhere with dread, and it will be necessary to take many of them to Iberville by force. The inhabitants of this parish are also making the duty of the hospital staff unpleasant, refusing to supply the patients with food, which, in consequence, is brought direct from New Orleans. Moreover, the servants of the institution have been warned that they will be shot should they venture outside the hospital grounds.

The New Buildings for the College of Physicians and Surgeons.—The working plans for the new Vanderbilt and Sloane additions to the College of Physicians and Surgeons have been completed and ground has been broken for the erection of the new buildings. The addition to the Vanderbilt Clinic is to be built to the east of the present building, at the corner of Tenth Avenue and Fifty-ninth Street, and will connect it with the main building of the college. The three lower stories will be used as an extension to the dispensary, and will furnish rooms for section teaching by the clinical instructors. The upper stories of this building will be occupied by the departments of bacteriology, clinical microscopy, and normal histology.

To the east of the present college building will be erected an addition of four stories and basement. It will be in the main devoted to the department of anatomy. The basement will contain a clay-modelling room and the reference osteological collection. The first and second stories will be devoted to the museum of human and comparative anatomy, while the third floor will be used as a morphological laboratory, and research work will be carried on by the instructors and post-graduate students. The fourth floor will contain an extension to, and connecting with, the present classroom of practical anatomy. The Maternity Hospital will also be enlarged.

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Original Articles.

EXCISION OF THE LARYNX.

SIX CASES HITHERTO UNREPORTED, TOGETHER WITH THE ANALYSIS OF THREE HUNDRED ADDITIONAL CASES GATHERED FROM LITERATURE.

BY CHARLES A. POWERS, M.D.,
DENVER, COL.,
AND
GEORGE R. WHITE, M.D.,
NEW YORK.

SINCE the first operation by Watson, in 1866, total or partial extirpation of the larynx has been performed upward of three hundred times. It has been the subject of exhaustive study at the hands of many observers. In earlier years by Schierer,[1] Baratoux,[2] Salamoni,[3] Mackenzie,[4] and Solis-Cohen;[5] recently by Pinçonnat,[6] Kraus,[7] Taube,[8] and Wassermann.[9] It has found its chief indication in carcinoma, but in scattered instances has been employed in sarcoma, polypi, tuberculosis, enchondroma, stenosis, and necrosis. Of all reported cases a little over two-thirds have been complete.

In the provisional choice of operation, one is to be guided largely by the results of endo-laryngeal examination; but whatever the procedure chosen, preliminary tracheotomy is a prerequisite. In this nearly all authors agree, and it is interesting to note that of the 171 total excisions collected by Pinçonnat it was omitted in but 8. Its advantages are that the lungs become accustomed to the new manner of breathing, that the trachea becomes fixed to the anterior wall of the neck, and that time is saved when doing the larger operation. The tracheotomy should be made well below the isthmus of the thyroid gland, and the tube inserted should be of large calibre. The laryngectomy may follow the tracheotomy in from three to fifteen days. During the operation of excision the greatest precaution should be taken to prevent fluid from passing down the trachea into the bronchi. Safety in this is effected by numerous devices, of which the tampon cannula of Trendelenburg, or some modification of it, is most in favor. Many operators have relied on occlusion of the trachea above the tube by distended rubber balloon, sponges, or gauze packing. Whatever the method adopted, the greatest care should be taken to render it effectual, entrance of blood to the lungs being exceedingly liable to occasion a fatal pneumonia.

In the total excision the patient lies on the back with a pillow under the shoulders, the head being a little dependent. An incision is made in the median line from the hyoid bone to a point a little below the cricoid cartilage, and a transverse incision over the hyoid bone meets this at its upper end. On exposing the larynx the sterno-hyoid muscles are drawn to one side and severed close to their insertion. The soft parts are bluntly dissected from the larynx. Vessels are ligated as encountered. After the sides of the larynx become free, the inferior constrictor of the pharynx is to be cut close to its insertion into the thyroid cartilage. The trachea is next cut across, just below the cricoid, and drawn forward, while its lumen is well packed with sponges or iodoform gauze. The larynx is bluntly dissected from the deeper parts, until the upper corners of the thyroid are freed. Finally, the thyro-hyoid membrane is cut across and the larynx removed. The epiglottis is removed or left in place according to its condition. If it is desirable to see the inside of the larynx before removing it, the thyroid can be split down the middle and the sides held apart, while the upper end of the trachea is packed with sponges or gauze. The organ can then be removed piecemeal.

The partial operation is usually performed by splitting the thyroid down the middle, packing the upper end of the trachea, and then removing as much of the larynx as is desirable.

After the operation the upper end of the trachea is packed firmly with gauze to prevent blood and saliva from flowing into it, and the rest of the wound stuffed lightly with an antiseptic gauze. Bardenheuer,[1] Solis-Cohen,[2] and others attempt to prevent foreign material from entering the lungs by elevating the foot of the bed. Nutritive enemata are given for the first forty-eight hours, then a stomach-tube may be passed through the wound into the œsophagus and gastric feeding begun. The packing is removed from the wound as often as necessary, and the parts washed with a weak antiseptic solution.

Breathing is maintained through the tracheal-tube for the first three or four weeks; an artificial larynx may then be inserted. The first apparatus of this kind was invented by Gussenbauer for Billroth's original case in 1872, and some modification of it is still in use.

In June, 1893, Hans Schmidt[3] exhibited a patient in whom there was no communication between the mouth and the trachea, in spite of which fact a fairly good voice had returned about a year after operation. Examinations by Helmholz, Landois, Fränkel, and others showed that the upper part of the œsophagus served as a receptacle for air, which put in motion some bands of mucous membrane at the base of the tongue. Solis-Cohen,[4] Carmalt,[5] and others have shown similar cases, and it is believed that by systematic practice a considerable number of these patients will recover their voice to a greater or less extent, without the aid of the artificial larynx.

The most frequent cause of death after the operation is pneumonia; it is due to blood or septic material entering the bronchi. In a certain number of cases fatal heart failure comes on four or five days after the operation. The cause of this has been exhaustively studied by Grossmann,[6] who thinks it due to irritation of the superior laryngeal nerve by contraction of the scar. Experiments on dogs show that stimulation of

[1] Deutsche med. Wochenschr., June, 1888.
[2] Le Progrès Médicale, June, 1888.
[3] Extirpazione della Laryngе. Cremona, 1886.
[4] Frederick the Noble, 1888.
[5] Encyclopédie international de chirurgie. Paris, 1886.
[6] De l'extirpation du Larynx. Paris, 1890.
[7] Allegemeine Wiener med. Zeitung, 1890.
[8] Centralblatt f. Chir., No. xix., 1892.
[9] Archiv f. klin. Chirurgie, Bd. xli.

[1] Deutsche med. Wochenschrift, Bd. xix.
[2] New York Medical Journal, vol. lvi.
[3] Ber. klin. Wochenschr., 1893.
[4] New York Medical Journal, 1893.
[5] Transactions of Third Congress of Physicians and Surgeons Washington, 1894.
[6] Wien. med. Presse, 1892.

this nerve always increases the blood-pressure, and in a certain number of cases renders the left ventricle insufficient, so that pressure in the pulmonary vein is increased and the lungs are congested, as shown by their increase in size. This stimulation, continued for a considerable length of time, can cause profound disturbance of the function of the heart, and finally complete cessation of its action.

The following six cases of excision of the larynx are here reported in full for the first time. One only, the first, was done by me (C. A. P.). The remaining five were observed by me in the practice of Dr. W. T. Bull, to whom grateful acknowledgment is herewith made for permission to publish.

CASE I. *Partial Laryngectomy for Cancer—Death from Recurrence at End of Five Months.*—F. H——,[1] male, aged fifty-four, was referred to me by Dr. George A. Richards, December 28, 1891. His general health had always been good. He was a machinist, and had worked at his trade, mostly in brass-work, since boyhood. He had never suffered from syphilis nor been given to alcoholic or other excesses. He had never had more than a transient trouble in his throat until May, 1891, at which time he began to suffer with a persistent hoarseness and irritation. For a time he was unable to speak aloud, but later regained his voice. Expectoration was troublesome, and at times profuse. There was occasional pain in the throat, extending thence to the right side of the neck and head. When first seen by Dr. Richards there was a small oval mass on the right side of the larynx, between the cords. To exclude syphilis, potassium iodide was given in considerable doses. Under its use iodism developed and the tumor increased in size. The patient was examined by Drs. Lefferts and Delavan, who agreed with Dr. Richards in the diagnosis of cancer and advised extirpation. He was admitted to the New York Cancer Hospital, January 2, 1892. A preliminary tracheotomy was done well below the isthmus of the thyroid, and a long tracheal tube of large calibre inserted. This occasioned no reaction, and the patient was up and about on the third day. He breathed freely through the tube, but the irritation in the larynx increased and caused much discomfort at night. On January 13th, eleven days after the tracheotomy, the right half of the larynx was excised in the following manner: Chloroform being administered through the tracheal tube, an incision was made in the median line from the hyoid bone to a point three-fourths of an inch below the cricoid cartilage. The soft parts over the thyroid cartilage were somewhat thickened and infiltrated. The upper notch of the thyroid was defined, an angular scissors entered at the crico-thyroid space, and the thyroid cut in the median line from below upward. At this first cut the cavity of the larynx was not entered, and as it was thought possible that the incision might be somewhat lateral, an additional cut was made on its left. It was found that the growth passed beyond the median line and thus occasioned deception. The two halves of the larynx were held widely apart with retractors and the trachea immediately stuffed with small sponges to the level of the tube.

Examination of the larynx showed a soft, grayish mass with segregated surface ulcerations, which extended from the upper to the lower border of the right thyroid wing, passing somewhat beyond the median line anteriorly, and at the centre bulging well toward the opposite side. A transverse cut was made above, outward to the edge of the sterno-mastoid, and the soft parts dissected from the outer surface of the thyroid cartilage. The thyro-hyoid membrane was cut across and the right half of the larynx easily removed, the pharynx being opened anteriorly and above. The right half of the cricoid was also taken away, together with the anterior portion, about one-fifth, of the left half of the thyroid. The left vocal cord was reddened, but the tissues seemed free from infiltration. Hemorrhage was checked, the wound washed with Thiersch's solution, and mopped out with a one-fiftieth per cent. sublimate solution. The sponges were removed from the trachea and a rubber balloon inserted and inflated, iodoform gauze being packed pretty tightly above it. The balloon had a diameter a little larger than the lumen of the trachea, and when blown up seemed to occlude the tube admirably. The rest of the cavity was packed firmly with iodoform gauze. The patient recovered rapidly from the chloroform, and showed no signs of shock. Rectal feeding was commenced early and carried out in the usual way. The outer dressings were quickly stained from oozing, and were changed at frequent intervals. The mouth was kept clean by constant washing with boric-acid solution. During the night a small amount of clotted blood was coughed through the tracheal tube. The temperature and pulse during the next five days were but little above the normal, the enemata were well retained, and the patient was comfortable. On the fourth day the gauze was removed, a soft rubber catheter passed through the wound into the œsophagus, and stomach-feeding with peptonized milk and whiskey commenced. On the fifth day the patient expelled a very considerable amount of blood through the tracheal tube. The temperature ranged from 100° F. to 104° F., the pulse ran up to 120, and septic bronchitis was feared. Physical examination of the lungs gave negative results.

These unpleasant symptoms gradually subsided, but unmistakable signs of iodoform poisoning were seen. The dressing was removed and gauze wet in Thiersch's solution was substituted.

On the eleventh day a severe secondary hemorrhage took place. This was promply checked by the house surgeon.

On the fourteenth day an œsophageal tube was passed through the mouth and left in place. At the end of the third week he was able to swallow soft food. An artificial larynx, a modification of Gussenbauer's, was inserted, and the opening in the trachea allowed to close. The apparatus proved satisfactory. The wound contracted upon it, and with its obturator in place the patient was able to swallow without difficulty. He could speak in a hoarse monotone, which was quite intelligible to those near by. The tube was of large calibre and the ingress and egress of air were ample.

The patient returned to his home, but a recurrence of the growth took place, and he died five months after the operation.

Report of the hospital pathologist, Dr. Coleman: "Epithelioma."

The remaining five operations were performed, as said, by Dr. Bull.

CASE II. *Total Laryngectomy for Cancer—Death at End of one Year.*—W. W——, aged sixty-two, engineer. June 17, 1887. About a year and a half ago began to lose his voice. Ten days ago began to have difficulty in breathing.

Examination by Dr. Beverley Robinson: Two cauliflower-like excrescences on the right side of the larynx, the superior taking its origin from the ventricular band, protrudes into the larynx, filling nearly half of the lumen. The lower growth is below the vocal cord and occludes the larynx to a greater extent than does the upper.

Tracheotomy under cocaine.

Endo-laryngeal Operation.—June 18th. Incision in the median line down to the thyroid cartilage, which was divided with a heavy scissors. In addition to the two growths above described another was found on the left side just below the vocal cord. The growths were removed with a Volkmann spoon and the bases touched with a saturated solution of chromic acid. The cartilage was united with a silver-wire suture and the superficial parts closed with catgut. Uneventful recovery.

[1] This case was shown before the Section on Laryngology, New York Academy of Medicine, in 1892.

The tube was removed on the fifth day, and the patient left the hospital relieved of dyspnœa.

Pathologist's report shows both growths to be epithelioma, cells of the small flat variety.

July 26th.—Dyspnœa and loss of voice. Tracheotomy under cocaine.

Total Laryngectomy.—August 3d. The patient was placed on his back with his head slightly dependent. An incision was made in the median line from just above the hyoid bone to the tracheotomy wound, and a transverse incision along the hyoid bone. The edges of the wound were retracted and the muscles peeled from the thyroid cartilage with a periosteal elevator. The thyroid was split in the median line without going through the mucous membrane, and the soft parts separated from the inside of the cartilage, which was then taken out in pieces. The larynx was opened by an incision from the hyoid bone to the cricoid cartilage, and the lumen of the trachea above the cannula filled with sponges and iodoform gauze. The growth was now examined and found to extend from the apex of the right arytenoid forward and to the right as far as the median line in front; downward as far as the base of the arytenoid, and to the left as far as the middle of the cricoid. There was another deposit half an inch in diameter about the insertion of the true cord. The cricoid was divided in the median line and its external attachments dissected off, then split posteriorly, and detached from the anterior wall of the pharynx, together with the parts of the larynx above it. The thyro-hyoid membrane was cut close to its lower attachment and the entire larynx removed. The lumen of the trachea was plugged with iodoform gauze above the Trendelenburg cannula, and some lamp-wicking placed above this, the rest of the wound being lightly packed with iodoform gauze. A loop of silk was passed through the anterior wall of the pharynx to facilitate the passage of the stomach-tube; sutures to the transverse wound; nutrient enemata for the first twenty-four hours; afterward feeding by stomach-tube.

Uneventful recovery. Death from recurrence about a year later.

Case III. *Partial Laryngectomy for Cancer—Death in Fourteen Months.*—J. D——, male, aged fifty-one. March 20, 1888. Four months before admission to the New York Hospital the throat became sore; no cough, no dyspnœa, but slight pain on swallowing. Three weeks ago hoarseness and slight laryngeal cough. Dyspnœa during last two weeks. Upon admission the patient had extreme dyspnœa and a moderate degree of cyanosis.

Examination: The parts about the base of the tongue are somewhat tumefied and congested. The apex of the epiglottis is pushed to the left by a growth which involves its inner surface, and extends downward and to the right as far as can be seen. There is but a very narrow slit between the growth and the opposite half of the larynx. There is a distinct enlargement of the glands on the right side of the jaw. A low tracheotomy was performed under cocaine to relieve the urgent dyspnœa.

Partial Laryngectomy.—March 31, 1888. The tracheal tube was packed about with sponges to prevent blood from entering the trachea. A vertical incision was made from the hyoid bone to a point just above the tracheotomy wound. The thyroid cartilage was split in the median line and the sides held apart by retractors, exposing the growth, which was found to involve the right side only and extend as far down as the base of the arytenoid. The epiglottis was drawn down by a hook and found to be involved. The left half of the larynx, together with the epiglottis and part of the wall of the pharynx, were removed and the wound packed with iodoform gauze. Condition of patient during and after the operation was excellent.

Feeding by stomach from the first day. Uneventful recovery. Death from recurrence in fourteen months. Pathological diagnosis: "Epithelioma."

Case IV. *Partial Laryngectomy for Sarcoma—Well at End of Four Years.*—L. R——, aged forty-three, female. The patient first came under observation April 5, 1888, at which time she complained of hoarseness of several months' standing.

Examination showed tumefaction of left ventricular band with degeneration of left true vocal cord. Mucous membrane high colored on the left side.

June 26, 1888.—Tracheotomy under chloroform, and a long silver tube inserted.

Partial Laryngectomy.—July 4, 1888. Head dependent. Incision from half an inch above hyoid bone to half an inch above tracheotomy wound. The larynx was split its entire length, and the upper end of the trachea was packed with sponges. The vocal cords appeared normal, but in the left ventricle and false vocal cord there was evident thickening, but no sharply defined tumor. A section of the ventricular band was removed, and after freezing, sectioning, and staining was found to contain inflammatory tissue only. The mucous membrane was normal. In view of the fact that the larynx had been the seat of a tumor for some weeks, which had been slowly increasing in size, it was thought best to excise all of the suspicious area. Between the true and false vocal cords a small mass of tissue was found about the size of three peas; this appeared to be attached to the cartilage. A section of this was rapidly prepared by Dr F. Ferguson, and gave evidence of being a small, round-celled sarcoma. Half of the larynx was removed with scissors, leaving behind the superior cornu of the thyroid. The wound was irrigated and packed with bismuth gauze. The upper angle was closed by two catgut sutures. The operation lasted two hours, a half of which time was spent in microscopical diagnosis. Uneventful recovery. Full pathological report lost. Patient well four years later.

Case V. *Total Laryngectomy for Cancer—Death from Recurrence at Two and One-half Months.*—J. L——, aged forty-four, male. Family and personal history good. Four months ago the patient began to have dyspnœa and dyspepsia. Two months ago tracheotomy was performed to prevent suffocation. He has worn the tube since. It has occasioned no trouble.

Examination by Dr. D. B. Delavan shows a large growth filling the upper part of the larynx, apparently attached on the right side and extending well over the median line. It is impossible to demonstrate where the growth is attached to the laryngeal walls, as they cannot be seen below the level of the top of the arytenoid cartilages. The depth of the tumor cannot be estimated. The epiglottis is fixed, showing no movement. Its shape, however, is normal. There is much congestion and some infiltration of the adjacent sides of and the pharynx. The surface of the tumor is irregular nodular. The mucous membrane is deeply congested.

Total Laryngectomy.—Operation: April 18, 1888. An incision was made in the median line, from the upper part of the hyoid bone to a point just above the tracheotomy wound, and a transverse incision along the hyoid joining the upper end of the first.

The soft parts were dissected from the larynx with periosteal elevator and the larynx split its whole length in the median line. The sides were held apart and taken out piecemeal until the cartilages and all the growth were removed. The epiglottis was left intact. The transverse incision and half of the vertical one were sutured with catgut, and the rest of the wound packed with iodoform gauze. The patient recovered well from the anæsthetic. He was given nutrient enemata the first thirty-six hours, after which he was fed by a stomach-tube.

May 2d.—Patient up and walking about.

May 11th.—The lower angle of the wound was enlarged with a cautery and a long tube inserted into the trachea through the wound.

The patient continued to do well until June 15th, when a small nodular mass was found at the right of the tracheal opening, adherent to the skin and mucous membrane. Examination showed the growth to be too extensive for removal.

June 27th.—The growth is the size of a goose-egg, and extends from the hyoid bone half way to the sternum. On the left side the skin is thickened, indurated, and firmly adherent. Induration reaches to the sternum.

June 30, 1888.—Patient died of hemorrhage from the growth.

Pathological diagnosis: "Epithelioma."

CASE VI. *Partial Laryngectomy for Cancer—Death from Operation.*—J. V——, aged sixty-eight, male, New York Hospital. Family and personal history good. For a long time has had transient hoarseness on taking cold. Two years ago subsidence did not occur, a tumor was discovered by a laryngologist and pronounced benign. Hoarseness was the only symptom until three months ago, at which time dyspnœa was experienced.

Examination: A reddish-gray tumor is seen growing from the right vocal cord. No ulceration. No enlarged cervical glands.

Partial Laryngectomy.—November 10, 1890. A median incision three and one-half inches long was made, the lower extremity being opposite the third tracheal ring. Tracheal cannula inserted. Thyroid opened, disclosing a tumor involving the right vocal cord and the mucous membrane above and below it. The right half of the thyroid and right arytenoid were removed, leaving the superior cornu of the thyroid. The wound was packed with iodoform gauze.

The patient developed septic pneumonia and died the fourth day after the operation.

Pathologist's report: "Epithelioma."

In considering the question of result, immediate and remote, after laryngectomy, the writers have compiled statistics in all of the cases to which they have been able to gain access. They have taken as a groundwork the admirable article of Eugene Kraus,[1] who, in 1890, collected and carefully analyzed all of the cases which were accessible to him. Of these there are 240. The writers are able to add 69 cases, making a total of 309. The cases collected by them are appended to this article (Table C). Statistics of the entire number of cases are found in the following table (A):

TABLE A.—TOTAL EXTIRPATION OF LARYNX.

	Kraus.	The Authors.	Total.
Number of cases	160	48	208
Carcinoma	142	43	185
Sarcoma	9	2	11
Tuberculosis	3	1	4
Other causes	6	2	8
Died as result of operation (8 weeks).	59	14	73
Recovered from operation "	101	34	135
Died within 6 months	36	15	51
" between 6 months and 1 year.	21	3	24
" " 1 year and 2 years	8	2	10
" " 2 years and 3 years.	6	2	8
Survived 3 years or more	13	2	15
Not traced, or reported too early	17	10	27
PARTIAL EXCISION OF LARYNX.			
Number of cases	80	21	101
Carcinoma	66	16	82
Sarcoma	2	2	4
Tuberculosis	2	1	3
Other causes	10	2	12
Died as result of operation (8 weeks).	20	8	28
Recovered from operation "	60	13	73
Died within 6 months	18	4	22
" between 6 months and 1 year.	5	3	8
" " 1 year and 2 years.	5	1	6
" " 2 years and 3 years	3	0	3
Survived 3 years or more	7	1	8
Not traced or reported too early.	22	4	26

[1] Allg. Wien. med. Zeitung, Bd. 35, p. 169.

Of the 309 operations 101, or thirty-two per cent., of the patients succumbed to the operative procedure—died within the first eight weeks from shock, hemorrhage, pneumonia, septic infection, or exhaustion. The mortality was considerably greater in the total operation than in the partial, it being thirty-five per cent. in the former as against twenty-seven plus per cent. in the latter.

The mortality is, then, an important factor in weighing the matter of operation. That it must vary materially, and must be dependent to a not inconsiderable degree on the general condition of the patient, the nature and stage of the disease, and, indeed, on the surgeon, may well be thought. Unfortunately, we are unable to analyze and estimate these factors, and are forced to accept the figures as a totality.

The cases collected by the authors (late cases) show a decrease in the death-ratio in the total excisions: twenty-nine plus per cent. as against thirty-six per cent. in the Kraus tables; while the mortality in the partial operation is, on the other hand, markedly increased: thirty-eight per cent. as opposed to twenty-five per cent.

The fact that such a large percentage of the operators have had but a single case may possibly be accepted as contributory to an explanation of the high death-rate, and it is but fair to assume that more careful selection of cases, early operation, and a constantly improving technique will tend to diminish the mortality. For the present, however, we shall doubtless be unable to remove laryngectomy from the list of very serious operative procedures.

When we consider the question of ultimate results in the malignant cases we find the statistics very unsatisfactory. Cases which are to be of value should be traced to the end. Assuming, in common with other observers, that three years is a fairly safe limit, the cases should be divided into two classes: first, those prior to three years ago, and second, those done within the last three years.

In the following table (B) an exhibit is made of the laryngectomies done for carcinoma prior to January 1, 1892:

TABLE B.—CARCINOMA.

1. *Total Excision of Larynx.*

Cases reported prior to January, 1892	180
Died as result of operation (8 weeks)	72
Died in first year, 5 from recurrence	8
Recurred in first year, either dead or still living when reported	51
Recurred after one year [13 months (2); 2 years (2); 2 years, 1 month; 2 years, 7 months; 3 years, 4 months; 9 years]	8
Reported in first year—free	16
Reported in second year—free	11
Reported in third year—free	3
Reported after three years—free	11

2. *Partial Excision of Larynx.*

Cases reported prior to January, 1892	77
Died as result of operation (8 weeks)	26
Died in first three years (3 from recurrence)	5
Recurrence in first year, either dead or still living when reported	17
Recurrence after one year [13 months; 16 months; 17 months].	3
Reported in first year—free	13
Reported in second year—free	4
Reported in third year—free	2
Reported after three years—free	7

Total Laryngectomy for Cancer. (Table B, 1.)—It is seen that of the 180 cases, 72, or forty per cent., died as the direct result of the operation itself. Of the remaining 108 cases, 51, or nearly one-half, had recurrence during the first year; and 11, or ten plus per cent., of the survivors were free from relapse three or more years after operation. These cases were as follows:

Operators: Bergmann, 3 years; Stoerck, 3 years, 3 months; Winiwarter, 3 years, 4 months; Fischer, 3 years, 6 months; Gottstein, 3 years, 6 months; Camponotto, 3 years, 6 months; Thiersch, 3 years, 7 months; Schede, 4 years, 6 months; Gussenbauer, 6 years; Gussenbauer, 6 years; Gussenbauer, 8 years (patient died of pleurisy).

TABLE C.—TOTAL EXTIRPATION OF LARYNX.

Cases Collected by the Writers.

No.	Surgeon.	Date.	Sex and Age.	Diagnosis.	Parts Removed.	Course.	Source.
1	Mikulicz....	1886.		Carcinoma.	Larynx.	Recurrence, died several months.	Schwartz, Tumeur du Larynx, Paris.
2	Mikulicz....	1886.		Carcinoma.	Larynx.	Recovery.	Personal communication to Socin.
3	Kocher.....	Jan., 1887.	M. 53.	Carcinoma.	Larynx, pharynx.	Died, 1 month.	Arch. f. kl. Chir., Bd. XLIV., 1892.
4	Branham..	Feb., 1887.	M. ?	Carcinoma.	Larynx, pharynx.	Pneumonia, died 4 days.	Transactions of the Medico-Chirurgical Faculty of Maryland, 1888.
5	Roux.....	April, 1887.	F. 61.	Carcinoma.	Larynx, pharynx, and glands.	Recurrence, after 4 months.	Rev. Méd. de la Suisse Romande, 1 88.
6	Bull.....	Aug., 1887.	M. 62.	Carcinoma.	Larynx.	Recurrence, died 1 year.	Records of the New York Hospital, 1887.
7	Westbrook..	1888.	M.	Tuberculosis.	Larynx.	Died few hours.	Records of St. Mary's Hospital, Brooklyn, 1888.
8	Bull.....	April, 1888.	M. 40.	Carcinoma.	Larynx, not epiglottis.	Recurrence, died 1 year.	Records of the New York Hospital, 1888.
9	Fowler.....	Nov., 1888.	M. 58.	Carcinoma.	Larynx.	Recurrence, died 2 years.	American Journal of the Medical Sciences, October, 1889.
10	Caponotto..	1889.	M. 25.	Carcinoma.	Larynx.	Well, 3 years.	Centralblatt f. Chir., Bd. XIX., 1892.
11	Orechia	1889.	M. 55.	Carcinoma.	Larynx.	Recovery.	Centralblatt f. Chir., Bd. XIX., 1892.
12	Terrier.....	July, 1889.	M. 50.	Carcinoma.	Larynx.	Recurrence, died 5 months.	Bul. and Mém. de la Soc. de Chir., Paris, March. 1890.
13	Poulsen....	Oct., 1889.	M. 56.	Carcinoma.	Larynx, pharynx.	Pneumonia, died 7 weeks.	Centralblatt f. Chir., No. 1, 1891.
14	Demon.....	1890.	M.	Carcinoma.	Larynx.	Died, few hours.	Jour. de Méd. de Bordeaux, July, 1890.
15	Fowler.....	1890.1	M. 56.	Carcinoma.	Larynx.	Recurrence, after 4 months.	Annual Report of the Methodist Episcopal Hospital, Brooklyn, 1890.
16	Perier.....	March, 1890.	M. 65.	Carcinoma.	Larynx.	Died, few hours.	Jour. de Méd. de Bordeaux, June, 1890.
17	Kocher.....	July, 1880.	M. 71.	Carcinoma.	Larynx.	Well, 6 months.	Arch. f. kl. Chir., Bd. XLIV., 1892.
18	Kocher.....	July, 1890.	M. 31.	Carcinoma.	Larynx.	Recurrence, 6 mo.	Arch. f. kl. Chir., Bd. XLIV., 1892.
19	Bull.....	Aug., 1890.	M. 50.	Carcinoma.	Larynx.	Pneumonia, died 4 days.	Records of the New York Hospital, 1890.
20	Meyer.....	Nov., 1880.	M. 65.	Carcinoma.	Larynx.	Recurrence, died 6 months.	New York Medical Journal, vol. xlviii., 1891.
21	McLeod....	Jan., 1891.	M. 28.	Carcinoma.	Larynx and glands.	Well, 47 days.	India Medical Gazette, 1891.
22	Hochenegg.	June, 1891.	M. 51.	Carcinoma.	Larynx.	Well, 5 months.	Wien. kl. Wochenschrift, Bd. V., 1892.
23	Wolf	Oct., 1891.	M. 41.	Carcinoma.	Larynx.	Well, 8 months.	Berlin. kl. Wochenschrift, Bd. XXI., 1892.
24	Cohen.....	Jan. 1892.	M. 41.	Adeno-carcinoma.	Larynx.	Well, 2 years.	New York Medical Journal, vol. lvi., 1894.
25	Bond	Sept., 1892.	M. 46.	Myxo-chondroma.	Larynx.	Well, 7 months.	Lancet, vol. i., 1893.
26	Jaennel	Nov., 1892.	M. 63.	Chronic laryngitis.	Larynx.	Well, 2 months.	Arch. prov. de Chir., VII., 1893.
27	Abbe.....	Nov., 1892.	M. 65.	Carcinoma.	Larynx.	Recurrence, died 3 months.	Records of St. Luke's Hospital, New York, 1892.
28	Gerster.....	Feb., 1893.	M. 42.	Carcinoma.	Larynx.	Heart failure, died 11 days.	Records of Mt. Sinai Hospital, New York, 1893.
29	Crele	1883.	M. 56.	Carcinoma.	Larynx.	Recurrence, died 2½ months.	Cleveland Medical Gazette, vol. viii., 1893.
30	Hubbard...	Dec., 1893.	M.	Carcinoma.	Larynx and glands.	Well, 2 months.	Trans. of the New York Academy of Medicine, 1894.
31	Carmalt ...	March, 1894.	M.	Carcinoma.	Larynx.	Well, 4 months.	Trans. of the Third Congress of Physicians and Surgeons, Washington, 1894.
32	Landerer....	1877.	45.	Carcinoma.	Larynx.	Died, 4 months.	Baratoux, quoted by Pinçonnat.[1]
33	Chiarella....	1881.	44.	Carcinoma.	Larynx.	Recurrence, 4 mo.	
34	Maurer. ...	1882.	44.	Carcinoma.	Larynx.	Recurrence, 1 yr.	
35	Gottstein....	1884.	49.	Carcinoma.	Larynx.	Well, 3¼ years.	
36	Kronlein....	1885.	57.	Carcinoma.	Larynx.	Died, 1 month.	
37	Agueio.....	1886.	58.	Carcinoma.	Larynx.	Died.	
38	Bohner.....	... .	.....	Carcinoma.	Larynx.	Died, 12 hours.	
39	Sokotowiski..	... .	.....	Carcinoma.	Larynx.	Died, 8 weeks.	
40	Chiarella....	.....	72.	Carcinoma.	Larynx.	Died, 8 months.	
41	Chiarella....	.....	65.	Carcinoma.	Larynx.	Died, 13¼ mo.	
42	Chiarella....	1887.	54.	Carcinoma.	Larynx.	Died, 4 weeks.	
43	Pelechin. ...	....	.....	Carcinoma.	Larynx.	Died, few days.	
44	Pelechin....	....	.....	Carcinoma.	Larynx.	Died, few days.	
45	Pelechin....	.....	.....	Carcinoma.	Larynx.	Died, few days.	
46	Pelechin. ...	.....	.....	Carcinoma.	Larynx.	Died, few days.	
47	Pelechin....	.....	.....	Carcinoma.	Larynx.	Died, 5 months.	
48	Hjorth.....	April, 1889.	M. 62.	Sarcoma.	Larynx.	Well, 3 months.	

PARTIAL EXTIRPATION OF LARYNX.

	Surgeon.	Date.	Sex and Age.	Diagnosis.	Parts Removed.	Course.	Source.
1	Kocher	June, 1886.	M. 44.	Carcinoma.	Half of larynx,	Recurrence, 4 mo.	Archiv f. klin. Chir., Bd., XLIV., 1892.
2	Demon	May, 1887,	M. 41.	Epithelioma.	Epiglottis, part of thyroid.	Recurrence, 9 mo.	Pinçonnat, Extirpation du Larynx, Paris, 1892. Congrès français de Chir.. 1888.
3	Kocher	Nov., 1889.	M. 51.	Carcinoma.	Partial.	Well, 1 year.	Arch. f. klin. Chir., Bd. XLIV., 1892.
4	Kocher	Dec., 1888.	M. 29.	Sarcoma.	Partial.	Well, 2 years, tuberculosis.	Arch. f. klin. Chir., Bd. XLIV., 1892.
5	Kocher.....	1888.	M. 67.	Tuberculosis.	Part of cricoid.	Died, 1 month.	Arch. f. klin. Chir , Bd. XLIV., 1892.
6	Bull	March, 1888.	M. 51.	Carcinoma	Half of larynx.	Recurrence, 1 mo.	Records of New York Hospital, 1888.
7	Bull	June, 1888.	F. 43.	Sarcoma.	Half of larynx.	Well, 4 years.	Records of New York Hospital, 1888.
8	Mikulicz....	....	.....	Carcinoma.	Partial.	Well, 1 year.	Communication to Socin. Schwartz, Tumeur du Larynx. Paris 1886.
9	Kocher	Jan., 1890.	M. 58.	Carcinoma.	Thyroid cartilage, tongue, phar.	Recurrence, 1 yr., Heart failure (?) Pneumonia (?).	Arch. f. klin. Chir., Bd. XLIV., 1892.
10	Thorner	Feb., 1890.	F. 57.	Carcinoma.	Arytenoid, half thyroid.	Died, 5 days.	Journal American Medical Association, vol. xiv., 1890.
11	Meyer	Nov., 1890.	M. ?	Traumatism.	Half thyroid, part of cricoid and arytenoid.	Well, 3 years.	New York Medical Journal, vol. lviii., 1891.
12	Giles	Dec., 1890.	M. 57.	Carcinoma.	Half of larynx.	Died, 24 hours.	Australia Medical Gazette, vol. xi., 1891.
13	Chavasse....	?	M. 3.	Traumatism.	Cricoid, half thyroid.	Recovery.	Lancet, vol. ii., 1891.
14	Abbe.....	1891.	M. 45.	Carcinoma.	More than half.	8 mo. Suspicious, Pneumonia.	Medical Record, vol. xlii., 1892.
15	Cohen	1891.	M. 54.	Adeno-carcinoma.	Part of larynx.	Died, 48 hrs., recurrence.	New York Medical Journal, vol. lvi., 1892.
16	McBurney...	Oct., 1891	M. 62.	Carcinoma.	Part of larynx.	Died, 5 months.	Roosevelt Hospital Records, 1891.
17	Monks.....	May, 1892.	M. 39.	Carcinoma.	Half of thyroid.	Well over 2 years.	Trans. Am. Lar. Ass., vol. xiv., 1892 (and personal communication).
18	McBurney ..	Jan., 1892.	M. 34.	Carcinoma.	Half of larynx.	Died, 6 months.	Roosevelt Hospital Records, 1892.
19	Stimson.....	Nov., 1892.	M. 36.	Carcinoma.	Part of larynx, and œsoph.	Died, 36 hours.	New York Hospital Records, 1892.
20	Stimson.....	Oct., 1893.	M. 40.	Carcinoma.	Half of larynx.	Died, few hours.	New York Hospital Records, 1893.
21	Powers.....	June, 1892.	M. 50.	Epithelioma.	Two-thirds of larynx.	Died, 6 mos., Recurrence.	Records of New York Cancer Hospital. (Present communication.)

[1] These cases are taken, as others in the same list have been found to be authentic when investigated.

Of the remaining cases, 8 died during the first year, without recurrence; 8 suffered relapse at a period varying from thirteen months to nine years; while the other 25 are reported before the lapse of three years, but are noted as "free"—16 in the first year, 11 in the second, and 3 in the third.[1]

Partial Laryngectomy for Cancer. (Table B, 2.)—Seventy-seven cases, of which 26, or thirty-three plus per cent., died during the first two months. Of the remaining 51, 7 cases, or thirteen per cent., are reported as "free" three or more years after operation. These cases are by Billroth, 3 years, 6 months; Stewart, 4 years; Schmidt, 4 years; Bergmann, 4 years; Solis-Cohen, 4 years, 3 months; Billroth, 4 years, 5 months; Küster, 8 years.

There remain the 10 cases subjected to operation during the past three years. (See Table C.)

It is worthy of note that in both the total and partial operations but two cases relapsed after the three-year limit had been passed, one at three years, four months, the other, Hahn's celebrated case, at the end of nine years.

It is more than probable that there are unrecorded fatal cases; it is not probable that there are many "cured" cases which have not been placed on record. So far as we can judge at present, however, we must accept these figures. Cases reported as "free" before the lapse of three years are of little value, except in that they diminish by so much the operative death-rate. And it would be of decided value if surgeons would divide their cases according to the extent of the disease. The writer (C. A. P.) has called attention to this on a previous occasion.[2]

It is obviously improper to include in the same category a case in which the cancerous process has progressed to the tissues outside the larynx and one in which there is a small intra-laryngeal epithelioma. In the one case there is no chance for cure, in the other a wide excision may offer a fair prospect of freedom from relapse.

In this way Kraus found that when the growth was confined to the larynx thirteen per cent. of the total operations and twenty per cent. of the partial were free from recurrence two or more years after removal. These percentages are based on the entire number of cases, deaths included, and are encouraging.

Of the operations for conditions other than carcinoma the following may briefly be said: There are 23 total laryngectomies. Sarcoma, 9—1 free at fifteen years; 1 free at twenty months; 1 free at three months; 6 died soon after operation. One case each of polypus, cicatricial stenosis, myxo-chondroma and chronic laryngitis (?) survived. The remaining cases succumbed to the operation.

The partial laryngectomies are as follows: Sarcoma, 3; enchondroma, 2; tuberculosis, 3; stenosis (syphilis—trauma), 11. Total 19.

One sarcoma case is "cured" at end of four years, 1 enchondroma, 1 tuberculosis, and 8 stenosis cases are noted as cured. The remainder died.

These conditions are, however, minor—the major interest lies in carcinoma, and we may ask, "How is the laryngologist or the surgeon to advise his patient?" He may, perhaps, explain to him the conditions shown by the foregoing figures—the mortality-rate, the ratio of recurrences and of "cures." So far as we now know, the only hope for the cure of cancer lies in its excision. A palliative tracheotomy leaves the patient without hope, he is condemned to a torturing death.

Czerny avers that his patients who suffered excision but who had relapse were more comfortable than those who had no operation.

[1] Of these, one, the famous case of Solis-Cohen, may now be added to the list of those past the three-year limit.

[2] On Cases Recently Admitted to the Surgical Service at the New York Cancer Hospital. New York Medical Journal, April 14, 1894.

It was the fortune of the writers to see, in the early part of 1894, Solis-Cohen's remarkable case—a man whose entire larynx and upper trachea had been removed for cancer over two years before. The man was in good health, free from recurrence.

Monks, of Boston, in a recent letter says that his case of partial laryngectomy is well and free over two years after operation. Such cases are worth scores of failures, if indeed the term "failure" can be applied in such an harassing and fatal affection. It is not so many years ago that surgeons advised against operation in cancer of the breast, while in a recent paper Bull[1] reports twenty-six per cent. free from relapse three to eight years after operation in all of his cases, unselected, and says that he feels that of the patients seen in the earliest stage of the disease fifty per cent. would come under the head of "cured."

It is not the purpose of the writers to strenuously advocate laryngectomy, but rather to make a plain statement of existing facts. Early diagnosis is of the greatest importance, and in many doubtful cases an exploratory thyrotomy will be found advantageous. It will be acknowledged, as said, that the only hope of cure, in cancer, lies in excision, and it is not irrational to expect that the progress which is constantly being made in the management of all forms of malignant disease will in due time enable us to record an increasing number of cases of cancer of the larynx free from relapse.

THE TREATMENT OF SUPPURATION OCCURRING IN THE COURSE OF TUBERCULAR JOINT-DISEASE OF CHILDREN.[2]

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The proper management of suppuration in the various phases of chronic joint-disease necessitates a discrimination between cases developing in children and in adults. From this distinction there follows a natural division of cases based on pathology and clinical history which will help to harmonize conflicting views of treatment. In the child the processes of growth and repair are more active; complicating pulmonary disease is less frequently present; there is less danger of amyloid visceral changes; and on the other hand, the invasion of the joint by operative procedure, where it involves destruction of the epiphyses, results in progressive shortening of the limb as the child grows and is thus more serious than similar operations on the fully developed limb. Clinically the organism of the child is found to be better able to cope with the ravages of the tubercular infection; the prognosis of phthisis is usually better, and throughout it is generally observed that localized tuberculosis runs a more benign course in childhood. Again, the disease in joints and bone may be considered as more nearly resembling tubercular adenitis than tuberculosis of other organs, the histological elements of bone, especially the spongy portions, and the serous surfaces of joints, being closely akin to the lymphatic system in which phagocytosis and other natural eliminative and conservative processes are most active. For this reason possibly, the bacilli are so often difficult to detect in bone and joint-disease and the prognosis of uncomplicated tuberculosis in these parts, as in the lymphatic glands, is relatively much better than in other organs. Another serous membrane which it is well known is singularly tolerant of the tubercular infection, is the peritoneum, also richly supplied with lymphatics.

All of these considerations call for conservative methods, especially in children, and the avoidance, ex-

[1] MEDICAL RECORD, 1894.

[2] Read before the Manhattan Medical and Surgical Society, October 27, 1894.

cept as a last resort, of mutilating operations which are more often justifiable and necessary in the adult. It is for a more extended application of non-operative treatment I would make a plea and it will be the burden of this paper to show that with proper support and mechanical treatment, with due observance of good hygiene and nutrition, tuberculosis of joints even in the suppurative stage in children will rarely require other means. Indeed, the occurrence of abscesses when rightly cared for can hardly be said to exercise any unfavorable influence on the ultimate termination of the case. How often in orthopedic practice a pale, emaciated, anæmic child with thigh riddled with old sinuses, and painful deformity from neglected hip-disease, will make an excellent recovery with a useful limb when the general surgeon would have condemned the joint to operation. Such a case is the opportunity of the orthopedist and its successful management a triumph of patience and of prudent conservatism.

Without minutely considering the pathology abscesses may be classified as extra-articular, involving adjacent soft parts or more or less remote from the joint, as the ordinary "cold abscess;" and as intra-articular, originating in the epiphysis or synovial membrane of the joint. The pus of chronic tubercular origin is different in important respects from that of an acute abscess; it is less irritating, it is often readily absorbed and shows a tendency to desiccate and disappear spontaneously instead of pointing and opening externally. Indeed, where developing in the cavity of a joint it often appears as a gradual modification of the normal joint contents from increase of leucocytes. The old rule, *ubi pus ibi evacua*, in the light of modern research and experience cannot be held to apply in these cases. Yet how frequently in practice is the knife at once plunged into such an abscess, thereby often converting a localized tubercular process into a general infection through the freshly opened lymphatics of the incision or curetted surface. A comparatively harmless, encapsulated collection of pus may thus be changed into a profusely discharging and exhausting sinus from a fresh infection of the staphylococcus of suppuration, or a fatal meningitis or lung complication may supervene from dissemination of the tuberculous material.

In large abscesses it is best, then, in the absence of special indication as threatened invasion of a joint or proximity to a vital organ, to permit them to point and open themselves when absorption does not take place. By thus waiting for spontaneous evacuation a certain number will disappear, and in those which remain nature, by erecting in advance a barrier of healthy granulation-tissue, prevents the spread of diseased material from within and fresh infection from without. From this point of view, the opening and curettage of large abscess cavities often communicating by tortuous sinuses with diseased bone remote from the surface and precluding thorough removal of diseased tissue and perfect sterilization of the parts, appears irrational and unscientific.

The most familiar exceptions to this general expectant plan of treatment are in cases of retro-pharyngeal abscess complicating cervical caries where pressure symptoms have arisen, and in cases where an abscess is near enough a joint to be dangerous from contiguity. In the former instance, if deglutition or respiration become embarrassed, it is necessary to evacuate the pus promptly. This is best done by an incision from without at a point behind the sterno-mastoid muscle where this is possible. Incision through the pharynx is objectionable because in this situation drainage is imperfect, the wound cannot be kept aseptic and it is difficult to prevent the premature closing of the opening. The following case may be of interest as illustrating the expediency of incision where the healthy articulation is threatened.

Bella F——, aged five, is of good previous personal history, and there is no evidence of tuberculosis, bone, or joint-disease in her family. One month after a fall a slight limp was detected in her right leg and there was some pain and tenderness about the hip—all of which symptoms were increased by use of the limb in locomotion, and have continued for six months and up to February 16th, when she was referred to me for treatment.

On examination the child is well nourished, there are no signs of acute inflammation, measurements of the limbs are the same, there is no atrophy, the thigh is held slightly flexed, adducted, and rotated inward. On passive motion, flexion is limited by sharp muscular spasm and joint function in all directions is incomplete. The diagnosis of incipient hip-joint disease was confirmed and a long extension-brace was applied with a high-soled shoe to the foot of the well limb. The patient a week later was doing well, pain and tenderness had disappeared and motion in all directions was less restricted. Progress was uneventful until May 4th, when for the first time a small, fluctuating tumor about the size of a pigeon's egg presented in the right gluteal region, a little above and internal to the great trochanter. This at first was deep-seated and obscure but gradually approached the surface and increased in size. As the abscess developed there was a notable improvement in the condition of the joint. Motion was soon as free as in the hip of the healthy limb and manipulation was free from pain.

On July 22d the abscess was opened and about two ounces of thin pus evacuated. The incision healed kindly under one dressing and up to the present time there has been no reaccumulation. The brace was continued until August 26th when it was removed as the joint appeared perfect in all its functions and free from reflex spasm. The patient was considered well and has since had no return of trouble in the joint.

In view of the speedy disappearance of symptoms and complete restoration of function in the later progress of this case no real involvement of the joint structure can here be premised. The condition which at first was indistinguishable from a true incipient coxitis was doubtless due to the irritation of peri-articular inflammation which resulted in the formation of an abscess external to the joint. With the opening of this abscess and free drainage the joint symptoms vanished. Operation in such a case is not only justifiable but is imperatively demanded to save the joint. In the case here narrated it is believed that escape of the joint from future infection was hardly possible as the abscess was very deep-seated and through the incision the finger could readily feel the capsule of the joint lying in close contact.

Treatment in general must be considered in connection with the primary disease and as a prophylactic measure of the first importance should be urged proper mechanical support providing rest and fixation for the diseased joint. To be efficient a sufficient length of limb above and below should be included in the immobilization. If a joint of the lower extremity be diseased the limb should be entirely relieved of weight-bearing either by recumbency in bed or by means of an axillary or perineal crutch. In short where destructive joint-disease exists there appears to be no good reason why in the application of braces and supports the same principles should not hold as govern the employment of splints in the treatment of fracture. The common practice of treating knee-joint disease by immobilizing in plaster of Paris and permitting use of the limb in locomotion and to support the superincumbent body, cannot be too strongly condemned. Likewise in ankle disease no device can insure sufficient protection which does not provide for complete relief from weight-bearing. The hip is usually treated on correct mechanical principles and it is inconsistent not to apply similar methods to the other joints of the lower extremity where the conditions are much the same. While not

denying the occasional development of abscesses in cases properly treated from an early period, yet suppuration is usually seen in neglected cases and in children the disease can generally be arrested before it reaches this stage if an early diagnosis is followed by efficient mechanical treatment. Even in old cases where numerous sinuses exist, often one of the first signs of improvement after fixation and support have been secured is a diminution or cessation of the discharge.

In the matter of mechanical support, whatever the preference of the individual orthopedist may be in the choice of materials, where complicating abscesses are present, there can be no doubt of the superiority of soft steel supports over plaster and its substitutes. Steel braces are lighter and admit of extemporaneous modifications which the ingenuity of the surgeon will readily devise in order to avoid pressure upon fluctuating points and interference with drainage where abscesses have opened. Their superior cleanliness, greater accuracy of adjustment and the facility with which they permit change of dressing leave no room for doubt if a discriminating choice is made. Valuable as is plaster of Paris in proper cases, I cannot but feel that its cheapness and the readiness with which it is applied, are responsible for much of the bungling work and bad results of orthopedic practice—witness the pressure sores, pent-up discharges, eczemas, anchylosis in faulty position and increasing deformity which are often found after the tardy removal of plaster splints. The tendency almost invariably in dispensary practice, is for the plaster dressing to go too long unchanged and thus the frequent inspection so necessary to careful treatment is neglected. When a limb is encased in a firm, immovable dressing of plaster often the fair, smooth exterior is a veritable whited sepulchre concealing foul discharges, sloughs and vermin beneath. That these are not imaginary or theoretical objections was well shown in a case of mid-dorsal Pott's disease which came to me recently. The child had been treated in the out-patient department of one of the city hospitals where a heavy plaster jacket with jury-mast attachment had been applied. The child had emaciated, in consequence of which the jacket had become loose and no longer available as a support. When the plaster was removed the summit of the kyphos, which the father stated had rapidly increased, was marked by a sloughing pressure sore through which the spinous process of a dorsal vertebra was nearly protruding. It would hardly have been possible for such a condition to have developed with the Taylor spinal brace or Thomas cuirass and have escaped observation.

Simple aspiration of abscesses is usually unsuccessful as the pus is often thick and curdy, clogging up the needle, or the cavity rapidly refills necessitating repeated operations. Aspiration with injection of antiseptics has found more favor in recent years. Of these the following have been used: Carbolic acid, chlorine, boracic acid, arsenic, mercuric chloride, creosote, guiacol, chloride of zinc, camphorated naphthol, iodine and iodoform. Practically, all but the last have been abandoned. Iodoform was first used in ethereal solution which, on account of its irritating effects and the report of a number of cases of iodoform intoxication, has fallen into disuse. At present iodoform solution in sterilized olive-oil or glycerine, strength ten to twenty per cent., appears to constitute a really valuable addition to treatment and should be tried after immobilization fails to effect further improvement. The injections are to be repeated at intervals of a week or ten days, five or six being usually necessary. Frequent failures and disappointments are reported. For discharging sinuses, peroxide of hydrogen besides thoroughly disinfecting, promotes separation of sequestra, limits the discharge and stimulates healing. It may be employed in five to ten per cent. solution. Fistulous tracts may also be injected to advantage with ten to twenty per cent. solution of zinc chloride. For pouting, tender granulations and sodden eczematous areas about the mouths of old sinuses, subiodide of bismuth, europhen, aristol and dermatol are among the best local applications. They are better in powder form than in ointment.

Synovectomy, arthrectomy, or joint erasion, resection and amputation, are exceptionally, if ever, justifiable in children. The frequency of recurrence *in situ*, the development of general tuberculosis and the sudden appearance of meningitis or phthisis when there is every reason for believing the brain and lungs were previously healthy, are sufficient cause to justify the belief that the traumatism of the operation and opening up of fresh channels of infection, where complete sterilization is impossible as in acetabular disease of the hip, more than counterbalance any possible good of the procedure.

As regards general treatment, tonics such as cod-liver oil, sirup of the iodide of iron, maltine, cream and fats are distinctly useful as in the expression of the tubercular diathesis elsewhere. Pure air, sunlight, a dry climate and removal to the seaside or mountains, where this is possible, are measures of the utmost importance. Creosote or guiacol internally appears in some cases to exercise some specific curative effect. Guiacol, the desirable principle of creosote, is usually unirritating to the stomach and may be given in doses of two to five drops three times a day. If the drug act favorably the nutrition and body-weight increase and an improvement in joint symptoms may be observed. Tuberculin of which so much was hoped has proved a failure save for purposes of diagnosis.

In conclusion, the points which I have desired to emphasize may be summarized as follows: 1. Both on theoretical and clinical grounds, treatment for children should differ from that appropriate in adults. 2. Conservative methods are usually successful and their trial is to be persisted in longer in children. 3. Relief from weight-bearing is as much indicated for the knee and ankle as for the hip where destructive disease is present. 4. Braces of untempered steel are preferable to plaster and its substitutes especially where abscesses complicate joint-disease. 5. Excepting when near joints or causing injurious pressure tuberculous abscesses should not be opened. 6. Radical operations are seldom if ever necessary in children.

145 West Sixty-sixth Street.

A Defence of the Dude.—The editor of the *National Medical Review* is moved to speak words of praise of the dude, who has the merit, he says, of cleanliness, for "his collar is not melted with the heat of many summers; neither are his shoes covered with the sands of time. His linen is not stained with the drippings of a tobacco press; neither are his teeth covered with the green algæ of antiquity. His face is not the sign of a poor barber; neither are his fingers ploughed with the deep fissures of the bichloride. The dude is surgically clean. Tubercle bacilli slip from his polished footwear; and the Klebs-Loeffler cannot find a nesting-place beneath his nails. He is the latest teacher; and wise are those who profit by his lessons." The editor is not complimentary to his professional brethren in Washington. In our favored city the above description applies with special fitness to the physician.

The Pennsylvania State Medical Society will hold its next annual meeting at Chambersburg, on May 21 to 24, 1895. It is requested that those members who intend to read papers will send the titles of the same to Dr. Dulles, 4101 Walnut Street, Philadelphia; and it is also urgently requested that those who are preparing papers will make them as brief as possible, so that all may have time to present their communications.

A CASE OF UNRECOGNIZED TUMOR OF THE CENTRUM OVALE IN WHICH TREPHINING WAS DONE FOR THE RELIEF OF INTRA-CRANIAL PRESSURE.[1]

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It is well known that brain tumors may produce no symptoms, or symptoms which are inadequate upon which to base a diagnosis. Meredith[2] has reported a case (for a time under the observation of one of us) in which a woman, aged forty-four, had, for years, attacks which were in every way akin to those of essential epilepsy, in which the post-mortem revealed a small tumor in a cyst with extensive softening of the operculum on left side, where it was situated. Trowbridge[3] reports the case of a man, who at the age of thirty-seven began to suffer from seizures which for thirteen years were thought to be those of ordinary epilepsy. The autopsy revealed a tumor the size of a hickory-nut in the anterior part of the temporal convolution with softening of other two convolutions. In Knapp's[4] recent work may be found references to many cases in which brain tumors were discovered only on the post-mortem table. It is not our purpose in the present paper to make studies from the literature of the subject, but simply to report the following case and endeavor to ascertain, if possible, the lessons it teaches. We have, however, referred to the cases of Meredith and Trowbridge because they were in many ways similar to our own, and with ours seem to suggest certain lines of inquiry which will be referred to later.

History of Case by Dr. Diller.—M. K—— (seen for first time March, 1893), aged forty years; married; mill-worker; strong, powerful man. Seventeen years ago had a primary sore, followed by a breaking out on the body and a sore throat. Two years ago, for the first time in his life, he was seized with a fit. Since then they have frequently recurred. He has from one to six in a week. While taking medicine he was for five weeks free from attacks (the longest period of exemption he enjoyed). These fits are characterized by loss of consciousness, during which there is violent non-purposeful contraction of muscles of brief duration. He frequently bites his tongue. At first his seizures were all of this character, but soon he began to have light attacks, consisting of a "queer sensation" all over his body, with nausea and a feeling of weakness. A year ago had some twitching in the left arm and leg between the fits. A fit itself is never preceded by this twitching, which appears to be an independent phenomenon. This twitching was never strong enough to visibly move arm or leg. A month ago he had, for a time, some similar twitching of left face—probably only fibrillary twitchings. For three or four months past has noticed complete paralysis in right arm for about a minute following each fit. Part of this time he was troubled with headaches, but is not now. He was placed upon iodide and bromide of potash and acetanilid.

While he was under my observation (a year and a half) I examined him frequently to ascertain, if possiple, some data upon which to localize a focus of irritation. I often questioned him as to the character of his spells. Many of them were of the type ordinarily seen in essential epilepsy. Light ones were apparently of the *petit mal* variety. They occurred frequently in spite of treatment. Besides these apparently ordinary attacks of *grand* and *petit mal*, there were others which I note.

April 24, 1893.—Fit while at table last Wednesday. Temporarily paralyzed in right arm. Could not speak for one minute. Consciousness preserved throughout the attack.

September 23d.—Light spell, in which he was momentarily paralyzed in right arm. Often has headache before a fit.

October 11th.—Three spells since the first of the month, in all of which he was conscious. Right arm powerless from three to five minutes. Headache preceded these attacks.

October 30th.—Five spells since last note. In two of these he had loss of speech and paralysis of right arm, lasting about one minute. Consciousness was not lost, nor were there convulsive movements of any sort. He is taking 3 j. of iodide three times a day.

November 9th.—Five spells last week, similar to others. Paralysis of right arm and loss of power to utter words for a minute or two.

November 11th.—Dr. Willets reports eye-grounds normal.

November 18th.—Spell every day last two weeks as noted above.

December 1st.—Sent to Mercy Hospital. Potassium iodide in one-hundred-grain doses ordered.

After a stay of several weeks he left the hospital and was lost sight of until September, 1894, when he again came under the observation of Dr. Buchanan. At this time he was taken with a series of convulsions, followed by alarming state of coma lasting three days.

An operation of some sort seemed to be demanded as a *dernier ressort* while he was in this state of coma. He came out of it, however, but was appreciably more stupid. Although we were unable to localize a growth or focus of irritation we decided to advise trephining, in the hope of bringing about some favorable change through relieving in some measure intra-cranial pressure. The man had for a long time craved an operation and at once consented when it was finally proposed to him. The frequent attacks which he had had during which the right arm was paralyzed and speech temporarily lost, while consciousness was preserved could perhaps scarcely be regarded as Jacksonian in type. Yet they differed from attacks of *petit mal* from which he suffered, and indeed from the ordinary types of *petit mal*. But as these were the only symptoms which appeared to have any localizing value (if, indeed, they had), it was determined to trephine over the arm centre on the left side.

Operation by Dr. Buchanan.—Operation, September 26, 1894. Chloroform anæsthesia. A large flap of the soft parts was turned down on the left side and a Roberts trephine with a diameter of one and a quarter inch was applied with its centre over the arm centre. This opening was enlarged with the rongeur forceps both ways in the direction of the fissure of Rolando. The dura mater was apparently normal, but a flap of it was raised and it was thought to be slightly thickened. The subdural space was explored in every direction with a blunt needle and with the finger, but it and the brain beneath were apparently normal in all respects. The dural flap was sutured with catgut and the scalp with silkworm-gut. The elastic band was used to control hemorrhage from the scalp and the usual antiseptic precautions observed. No drainage was made. The wound healed under one dressing, with practically no elevation of temperature. The operation had no apparent effect on his mental or physical condition, except that he was free from convulsions for about a week or ten days. He was in his usual condition during the day of October 24th, had a severe convulsion at seven o'clock in the evening, and died the same night.

The autopsy was performed by Dr. H. A. Royster, resident physician at the Mercy Hospital, who furnishes the following report:

Brain above average size, weight not determined. Convolutions well marked. Thickening of membranes

[1] Paper read before the Pittsburg Academy of Medicine, January 7, 1895.
[2] Alienist and Neurologist, July, 1891.
[3] Journal of Nervous and Mental Diseases, April, 1891.
[4] P. C. Knapp: Intra-cranial Growths.

at site of trephine wound; cerebrum beneath this normal. Sections horizontally through ventricles showed an excess of fluid and congestion of blood-vessels in ventricular walls. White matter of brain softer than normal.

The point of especial interest was a morbid growth discovered in the centrum ovale of the right hemisphere, situated about midway from before backward, and nearer the base than the vertex. This growth was about the size of a hen's egg, irregular in shape, not circumscribed, but encapsulated. It was darker in color and harder than the surrounding white substance which was distinctly pulpy. It presented numerous branchings and was enucleated with difficulty. Unfortunately, the specimen was misplaced, hence no microscopic examination was made.

The case is of interest from the problems it presented both in diagnosis and treatment. At first the symptoms were those only of essential epilepsy, although the history of chancre and the fact that the fits did not begin until the patient was thirty-eight years of age, naturally led us to suspect syphilis as the underlying cause of the symptoms, or, at least, as a contributing factor.

He was given a thorough course of anti-syphilitic treatment, but apparently without effect. An attempt was made to interpret the significance of the attacks he suffered from latterly in which his right arm was paralyzed and his speech lost temporarily. Unfortunately none of these attacks were observed by either of us. But the patient himself always described them in about the same way. In the absence of alterations in his eye-grounds, severe or persistent headaches, convulsive movements, vomiting, permanent palsy, there were certainly not sufficient data upon which to base a diagnosis of brain tumor. Indeed in view of his previous attacks of *grand* and *petit mal* it was questionable whether the momentary attacks of right-arm palsy were not those of *petit mal*.

But the facts that consciousness was preserved throughout them and especially that there was temporary aphasia cotemporary with this palsy, did seem to indicate that the symptom might be of some localizing value.

The supervention of coma forced the conclusion upon us that some grave organic, intra-cranial trouble was present. Trephining, as already stated, was advised in the hope that relief of intra-cranial pressure might in some way effect a favorable change. This we would have deemed advisable even had there been no localizing indications. But the arm and speech centres on the left side, apparently standing in some causal relation to his transient attacks of aphasia and monoplegia, determined us to trephine over the arm centre on left side.

The revelation made at the autopsy came as a great surprise to us. Dr. Royster, who performed the autopsy, says that he is sure that no error was made in noting the growth as being on the right side. So nothing was discovered which would account for the attacks of aphasia and right-arm palsy (unless they be explained by the thickened membrane), whereas there was present abundant cause to account for left-sided symptoms (which were not present). We are totally at a loss to offer, even in the light of the autopsy, a satisfactory explanation of the symptoms.

Cases like this and like those of Meredith and Trowbridge, already referred to, teach the lesson which has so often been taught before, and to which one of us has called attention in a previous monograph,[1] viz., that epilepsy, even so-called essential epilepsy, is only a symptom or a train of symptoms. It teaches, like Trowbridge and Meredith's cases, and many others, that extensive growths or softening in the brain may produce inadequate localizing symptoms or none at all. The theory of compensatory action or bi-lateral representation alone can account for the preservation of function of a part when the cortical organ is destroyed or cut off from the part which it represents.

The study of this case and similar ones teaches that we should ever be on the look-out for gross organic lesions in so-called essential epilepsy.

The weight of professional opinion is against operations in essential epilepsy save when there is some special indication, such as depressed bone, etc. Experience does seem to show that a large number of operations in these cases produce no beneficial effects. But we submit that in cases of so-called or apparent essential epilepsy, when large increase in frequency of fits takes place; when coma, signs of intra-cranial pressure, or other evidence presents itself, auguring a sudden or a certainly fatal end, the operation of trephining, even in the absence of localizing symptoms, is not only justifiable but demanded.

This question was dealt with (and very ably) at the recent meeting of the British Medico-Psychological Association, held last June in Dublin,[1] in papers read by Dr. T. Claye Shaw ("On Brain Pressure and Trephining") and Mr. John Macpherson ("On Cerebral Pressure"), and in the discussion by Mr. W. T. Stoker, Dr. Mercier, Professor Benedikt, Mr. Swanzy, and Dr. George Robertson, which followed the reading of the papers.

Dr. Shaw, in speaking of the operation in general paralysis, says: "This much may be said for the operation — that it seems harmless when carefully performed, no fatal results having, so far as I am aware, ever resulted. The apprehended after-results, as regards local tenderness, liability to injury at the trephined spot, bulging of contents of the cranium, are phantoms which have no basis of fact. I fear, indeed, that we have not been bold enough in our measures. Mr. Harrison Cripps, who performed earlier operations for me, recommends removal of a much larger extent of bone; of a piece, indeed, about three inches square, and he would do it on both sides of the skull."

Mr. Macpherson, writing "On Cerebral Pressure," says: "I do unhesitatingly maintain that many cases manifesting such a combination of symptoms as I have enumerated have derived undoubted benefit from surgical operations."

The discussion following the reading of these papers was opened by Mr. W. Thornley Stoker, President of the Royal College of Surgeons, Ireland, who used this emphatic language: "In any case where there is pressure the operation of trephining is a logical and a justifiable procedure. I feel very strongly upon this point. The operation is one that is in most cases practically free from danger. . . ."

Mr. Swanzy said, "It is a very desirable measure, *apart from any intention to remove the tumor*.[2] It not only seems to lengthen the life of the patient, but to preserve a much longer possession of sight than could be expected otherwise."

Dr. George M. Robertson, after presenting the other side of the question remarked as follows: "It must not be concluded from my remarks that I am opposed to these surgical operations; I have merely stated that surgical interference in most cases is not justified. The operation is quite experimental; *but there is full justification when performed in cases which would otherwise be hopeless*,[3] as it is simple and not dangerous."

Dr. Robertson was speaking of the operation more especially in general paralysis of the insane.

It will be seen that in these expressions of opinion our proposition receives material support. It is surely better to give a man even a small chance of improvement or extension of life than to give him none at all.

[1] Fallacies in Conclusions as to the Efficacy of Therapeutic Measures for the Relief of Epilepsy, University Medical Magazine, December, 1890.

[1] Journal of Mental Science, October, 1894, p. 562, *et seq.*

[2] Italics ours.

[3] Italics ours.

SCORBUTUS IN INFANCY.

By JOHN C. WISE, M.D.,
SURGEON UNITED STATES ARMY.

DESPITE the labors of Northrup and Starr in this country, of Railton, Sutherland, and Green in England, in establishing the existence of infantile scorbutus, it is to be feared that the profession at large, in America at least, have failed to recognize and utilize their demonstrations. No doubt this state of affairs is in great measure due to the indefinite ideas which we have of the pathology of the disease, as well as that of rachitis, with which it is so commonly confounded.

It is the object of this paper briefly to advert to the well-established fact, of the not uncommon occurrence of scorbutus in infancy and childhood, to emphasize the clinical features which assure the diagnosis, and to note the excellent success attained by the use of anti-scorbutic treatment. The phenomena of rachitis and scorbutus often coexist, and this we easily understand, both conditions being essentially due to malnutrition, and when our knowledge of biological chemistry is more perfect we shall doubtless find that but slight variation in developmental processes determine the one or the other affection. Scorbutus is looked upon too much as an essentially marine disease, peculiar to long voyages and polar expeditions; yet the profession must be familiar with the dire results caused by it among the forces of the allies during the Crimean War and the last siege of Paris. It is a common occurrence in Ireland, following failures in the potato crop; indeed it is quite true that while the applications of modern science in enabling ships to make rapid transits over great oceans and giving the ship's company an abundant and varied dietary, has banished scorbutus from the sea, it seems probable that the failure of American mothers to nurse their infants, and the introduction of proprietary foods, is destined to make scorbutus a formidable disease on land, under prevailing economic conditions.

If clinical and therapeutic arguments are not sufficient of themselves (as we contend that they are) to establish the existence of scorbutus in the infant, the significant demonstrations of "post-mortem" reports are most conclusive. The most important feature in this connection is the hemorrhagic results of scorbutus, a condition long well known, it is true, but found now so invariably in cases under dispute, proving the scorbutic character of the disease, even when blended with rachitis, as it undoubtedly often is.

In a case of Dr. Stephen McKenzie extensive endosteal and sub-periosteal hemorrhage was found to exist, but no evidence of rachitic conditions; other observers have noted hemorrhage into the dura mater, lymphatics, intestines, and pyramidal structures of the kidneys, while a most common occurrence during life is subperiosteal hemorrhage into the orbital cavity. This hemorrhagic tendency, or diathesis, if we can correctly term it so, is the essential differential between scorbutus and rachitis, though we are aware of scorbutic conditions which have not run on to the hemorrhagic stage.

Without entering further into the pathology and "post-mortem" changes found in scorbutus, for which the profession is so much indebted to those I have mentioned, and more recently, Barlow, of England, I wish to call attention to the clinical phenomena which will most assist us in establishing the existence of the scorbutic state.

All practitioners are aware of the serious digestive disorders attending rachitis, the capricious and fagged appetite, the persistent diarrhœa, the foul-smelling and ill-conditioned stools. In scorbutus we have not this train of symptoms, and their absence in any case of suspected rachitis should lead to great care in establishing the true nature of the malady; indeed, if the little sufferer has not been heroically treated with cod-liver oil, sirup of iron, and hypophosphites, capable in themselves of seriously deranging the digestion, it will often take food in greater quantity, in the vain effort to supply the necessary elements of growth. Still more characteristic is the state of the gums, and this will depend in great measure on the progress of dentition. If no teeth have erupted there may be nothing amiss beyond swelling and turgescence of the gums. Coincident with the eruption of the teeth the gums become swollen and spongy, fleshy growths form, often of considerable length, sometimes covering the teeth, which thus appear to have receded; they are the seat of frequent bleeding, which adds to the fetid odor of the breath; as to rachitis, the teeth are dark or black, and corrugated.

If the true character of the disease is not suspected we will probably be asked to treat a catarrhal conjunctivitis, which will prove unamenable to the usual treatment—the lids puff and swell, the eyes protrude, and give a distorted appearance to the visage; sooner or later we will notice an ecchymosis about the palpebræ, usually the upper, all of which is the result of hemorrhage into the orbit. This state of proptosis with ecchymosis is usually persistent.

As in the acute stage of rachitis, we have moderate elevation of temperature, with dryness of the lips, but sweating is confined more to the head and chest. Coincident with these symptoms we have the marked hyperæsthesia, the pseudo-paralysis, and the bone lesions of rachitis, but such symptoms as craniotabes, and the "rachitic rasures" are absent, which is an important fact, as we are aware that changes in the chondro-sternal articulations are the earliest osseous changes in rachitic disease.

If the pathological results, demonstrated post-mortem, and the widely divergent clinical course, were insufficient to establish the existence of scorbutus in infancy and childhood, we must regard the result of these therapeutical applications as conclusive. In the entire field of medicine there is no such immediate and happy results obtained as from the exhibition of anti-scorbutic treatment in these cases. We find a most decided "désagrément" of many parents of rachitic infants to be a feeling that the occurrence of such disease is a reflection, inasmuch as its more common abode is in the unhygienic homes of the poor, associated with lack of food and care, and while this is in great measure undoubtedly true, we do not find the etiology of scorbutus to correspond.

On the other hand, scorbutus, as occurring in young subjects, is agreed to occur more commonly in the homes of those who are in comfortable circumstances. It is explained by the fact that while the diet of the infants of the poorer class is not what it should be in its variety, it approaches more closely that demanded by nature than the expensive proprietary articles used by wealthier parents. And this is undoubtedly true. In my own observation there has been such uniformly good results following the abandonment of the proprietary article and the substitution of cow's milk, that I consider the former not only negatively but positively prejudicial to anything like normal development. And if the mammary glands of women are to be relegated to the artists, we may at least hope that those of the cow may be their humble, but useful, substitute.

Just what is wanting in a dietary to cause scorbutus, physiological chemistry does not inform us. It is neither the citric, malic, or tartaric acid, nor the alkaline bases, nor yet their combination, but we are aware that as existing in lemon and orange juice, and that of fresh vegetables, blended as nature intended, they only are efficient.

It would seem eminently wise to distrust the elaborate and complex food-products which crowd the market, and in shaping a dietary for infants adhere as closely as possible to simpler forms of food. Otherwise we may destroy a principle, it may be, of no greater

fruity than the bouquet of a wine, due to a volatile ether, yet the loss of which radically impairs the value of the article for nutrient purposes.

In conclusion, I will briefly cite a case of infantile scorbutus, as illustrative of the differences noted and as diagnostic of this disease.

S. M——, aged thirteen months, of healthy parentage, in comfortable circumstances, came under my care in October, 1893. The child had been fed soon after birth on artificial food. He had been a bad sleeper, was quite pale, and evidently not well nourished. While passing the summer of 1894 in Massachusetts, serious symptoms of malnutrition occurred; it had been standing and trying its limbs; now voluntary movements ceased, cheerfulness was lost, to be replaced by various manifestations of malaise and pain. The lower limbs remained flexed and helpless; extension gave great pain. There was also commencing swelling of the wrists and ankles. The disease was pronounced, in Boston, to be rachitic, and a treatment of cod-liver oil, lime, and the sirup of hypophosphites ordered. When seen in October, 1894, the symptoms were more decided; the limbs hung in a helpless way, or were flexed when recumbent; the ankles and wrists were considerably enlarged, with great general tenderness; temperature ranging from one to two degrees above normal. Appetite good, digestion fairly well performed. No diarrhœa, but stools of bad odor and color. Decided sweating of the head and upper extremities. Two upper incisors had erupted, were black and furrowed; the gums, though swollen and inclined to bleed, were not characteristic of scorbutus. In November, a hemorrhage had occurred into the orbit, the eye protruded forward and downward. The bone changes had advanced rapidly; the right thigh was swollen and extremely painful in its entire length. At a consultation held some two weeks prior to this time, cow's milk had been ordered more liberally, and beef-juice as an additional article of diet. The sirup of the iodide of iron in large doses was well borne. By December 1st, the infant was decidedly worse; the gums were the seat of fleshy growths, easily bleeding; the breath was so impure as to require frequent antiseptic washes. Loss of flesh had been continuous, and it was evident that without radical change there was no hope for it. The diet was made pure cow's milk, with usual addition of lime-water; to the milk was also added sieved potato, and sweet oranges allowed. In two weeks' time a great change for the better was obtained in every respect—the swelling slowly subsided, the gums became firmer, the teeth whitened, and voluntary movement was resumed, so that at Christmas the little sufferer was practically restored to health.

NAVY YARD, WASHINGTON, D.C., January, 1895.

The Physician to the Family of the Ameer of Afghanistan is Miss L. Hamilton, formerly of Sundrum, in Ayrshire. She was trained as a nurse in the Liverpool Infirmary, and afterward studied medicine, taking the degree of M.D. in Brussels, three years ago. She went to India and was practising in Calcutta, when the Ameer offered her a position at a good salary in Cabul. She accepted his offer, against the advice of the Indian authorities, who told her they could not guarantee her protection from insult or injury if she went to live among the Afghans.

The Sale of Patent Medicines is said to have increased immensely in this country during the past year, the sales of some favorite medicines having been five, or even ten, times as great as in any previous year. This is one of the common phenomena of periods of financial crisis, those who are slightly ailing preferring to take their chances with cheap patent medicines rather than to consult a physician and pay his fee.

NEURASTHENIA—ITS CURE BY THERMO-THERAPY.

BY G. MANLEY RANSOM, M.D.,

NEW YORK.

ARE the organic causes of neurasthenia known? What are the physiological influences in this disease that thus tend to alter the general tone of the individual, of his intellectual and emotional faculties, of his total sensibility? Is there some condition of the circulation, general or local, or some inhibitory action, some arrest of function?

These fundamental questions can be satisfactorily answered though a proper study of human physiology. Valuable hints regarding the physiology of the vasomotor system have been obtained from experiments on the lower animals, and to some extent from pathology, and these have stimulated investigations in regard to augmenting and inhibiting actions of nerves on the vascular system. Those of Angel, Moso, Webber, and others, seem to show that an unstable vascular tone, or irregularities in the vasomotor system, due probably to over-excitation of the central nervous system, and whence results extreme irritability of the vacular system, account best for the symptoms of neurasthenia.

From these experiments it seems very probable that in this disorder the brain symptoms, and also those relating to organs of the body, are due to contraction of the small blood-vessels, causing ischæmia in certain regions, with consequent insufficient nutrition and exhaustion. But this probability may be said to be reduced to a certainty when, through the effects of temperature alterations on the skin in equalizing the circulation, neurasthenia can be cured.

That treating neurasthenia by "thermo-therapy" gives us the full facts of this disease, and not an abstraction, becomes apparent when it is seen that, by a single proper treatment of this kind, we can rapidly relieve all the indicative phenomena of this disorder.

When a neurasthenic patient, immediately after such a treatment, who has been miserable and complaining just before it, invariably feels better, and almost always volunteers this information, and at the same moment his pulse-tracings and other objective symptoms, show that his circulation has improved, that since the treatment it is nearly or quite normal; and when, after a series of such treatments thus tending to promote the progressive co-ordination of his vascular actions, his circulation becomes permanently normal, and he declares himself well, is there any further evidence necessary as to the nature of the physiological causes of this disease?

Studying vascular actions in the lower animals, can give us merely an abstract of such functions in these animals. This can assist to a knowledge of physiology, but certainly it cannot be made directly to give us a true knowledge of correlated physical and psychic states as thermo-therapy can.

None of our nervous apparatus is an abstract unity, there is no such thing as a sense-apparatus or a motor-apparatus in general, as they are described for convenience in physiological treatises, but only a concrete individual apparatus, the study of which as a dynamic whole, can alone satisfactorily explain the general state—the psycho-physiological state of the man.

We cannot picture to ourselves the general sensibility as separated from the higher sensibilities in any fully conscious state, or primary reflex actions, as unconnected with the highest forms of these actions within us. That we know ourselves through the consensus of our sensibilities, is proved by the effect of temperature variations in altering states of our consciousness; for example, in this case Dr. W——, a practising physician, of Burlington, Io., who was miserable and complaining before a proper thermal treatment, and who expressed a feeling of relief and well-

being immediately after such treatments. He sends me the following letter:

"When I came to you, on my way south, I was suffering from neurasthenia, with all the distressing symptoms that make the life of the neurasthenic miserable—insomnia, occipital headache, neuralgias, mental depression, and inability to mental concentration without great fatigue, with an irritable heart, and constant apprehension of impending evil. Your first treatment with the douche brought me some relief, after the second I had no trouble about sleeping; now, after eight treatments, I feel well, none of the symptoms above enumerated bother me. Have a general feeling of well-being and elasticity. I feel that the benefit I have so happily derived from these treatments is chiefly due to the care and good judgment with which they were administered. I find that I have gained one pound and a half in weight. With this turn toward health I am confident that a rest, and the benefit of an out-of-door life for a time, will completely restore me. I leave for Florida to-morrow."

Another case, a prominent Western manufacturer, aged fifty-four, came to me October 12, 1894, from Dr. Bache McE. Emmet of this city. This patient had tried baths of various description, and electricity, without relief from either insomnia or pain, and was very dubious about such treatments affording him help. For five years he had spent over half of each year in travelling to the different springs and health-resorts without being benefited. I quote from his letter to me, September 10, 1894: "I have tried baths, half packs, full packs, salt rub, and douche, also electro-thermal and chemical baths, static electricity and massage, without either relief from pain or increase of sleep." Another part of his history may be given with precision in his own language. Having first mentioned a visit to Boston, in January, 1890, to consult a specialist, who called in several others in consultation, sending to New York for one, he writes: "Decision was, trouble caused by some serious stomach trouble. I was sent home as the best place. Home doctors claimed it was nerve trouble, or prostration from overwork, which was my own belief, as I had been troubled with insomnia for years, sleeping but a few minutes at a time, and then only latter part of night; but they treated me on the line of the Boston conclusion, viz., diet and constant use of hypodermic syringe, as required for severe pain. Stomach got better, but nervousness and pain continued as at first whenever syringe was not used. This has lasted for five years, during two years of which I had comparatively no stomach distress. I was eating liberally of anything except very rich food, in fact I often remarked I did not know I had a stomach, as far as distress was concerned. The past two years nervousness, pains in the breast, spine, and under the shoulder-blades had been getting much worse, until in August, I found I would soon be insane from the frequency of the pain and inability to sleep. Was only relieved by syringe until nearly ten times the original quantity of morphine in twenty-four hours was used, and without relief except for very short intervals, two or three hours. Strength fast going, confined to bed most of September and first half of October."

The record of this patient, kept for Dr. Emmet, contains many figures relating to hours, medicine taken, and decreasing doses of morphine. I shall therefore merely quote some concluding remarks: "Came to New York by Dr. Emmet's advice to try treatment with the douche. First treatment October 12, 1894. Second week much better and have gained four pounds, third week gained two pounds, much stronger, with somewhat better nights. Since that time have gained in strength, no loss of weight, can walk a mile without fatigue and sleep comparatively well. Acute pains have almost disappeared, nervousness not near so marked, and I can feel improvement steadily by the week with an occasional set-back for a day only, and morphine reduced to one twenty-fourth of a grain, taken at long intervals."

Mr. G—— has gone to his home to spend the holidays. We do not consider him cured, but his case has been so much benefited by this treatment, where everything else had failed, that he will continue it as long as necessary. I should like to say that, although he had been treated before by douches, as he states, they were administered in such a way that the shock confined him to bed, producing lasting bad effects. In treating this case I chose the douche because of the facility with which, by its use, temperatures and pressures can be rapidly and accurately varied to meet the requirements of the most delicate states and parts of the body. A letter just received from the patient about his return, dated December 31st, says: "I have held my own, and have been congratulated by every one on my improved appearance."

Dr. W——, New York City, came to me May 2, 1894. This patient's prominent neurasthenic symptoms were insomnia, indisposition, depression, night-sweats, apprehension, loss of weight, down-heartedness. It was only by the exercise of unusually strong will-power that he had been able to continue his professional duties. I treated him steadily with vapor baths, being guided by his pulse and sensations in regard to the temperature and duration of baths. This treatment was continued until July 5th, at which time Dr. W—— was considerably improved, and I left the city. He returned to me on October 29th, having remained in the city, and at work, all summer, which brought back all the old symptoms, with even more mental depression. I began treating him daily, alternating douches with vapor baths, sometimes combining them, the temperature being varied to meet the indications of his pulse and changing sensibility. At first, before the treatments, his pulse varied between 100 and 110; After a full reaction from these treatments between 90 and 85. It is now, except occasionally, normal, and he has gained twelve pounds in weight since October 29th—altogether twenty pounds since May 2d. He now eats well, sleeps well, and is much interested in some scientific work that he has undertaken in addition to his regular professional duties. His present enthusiasm and energy are in marked contrast to his condition when he came to me two months ago, downhearted and talking of giving up his practice, at a great sacrifice, for a long rest.

Mr. C——, thirty-five years of age, sent to me by Dr. H. F. Walker, of this city, September 12, 1894, for douches. Although of fine physique he became easily fatigued, mentally and physically, and was much disturbed about a numbness that attacked his arms and legs at times, and the undue mental confusion that any business question brought on. After the second douche he thought he "felt a difference." As they proceeded he reported a steady improvement, which was more noticeable on the day following the treatments. He is now, after twelve douches, able to decide questions that arise in the management of his affairs without the hesitancy and confusion that had so distressed him. The numbness has also disappeared, and his full physical strength has returned.

Miss H——, referred to me by Dr. A. H. Smith, of this city, October 25, 1893, was neurasthenic, had received a shock in a railroad accident some two years before, since which time she had suffered with pain in the back and head and general debility. She was unable to take any exercise without fatigue and pain. Her first visits necessitated a carriage and pillows, assistance in going up and down stairs and in dressing, very marked hyperæsthesia over the dorsal region of the spine. She was treated with very mild warm spinal douches, and very carefully administered light massage daily as the treatment best adapted to her weak condition. She gained steadily in strength, and when she returned to her home, early in December, she had been to church

and to the opera, and could walk to and from her hotel, a distance of three blocks, unassisted. She was much cheered mentally, as since her accident she had been forced into the *rôle* of a confirmed invalid, not even being able to participate in entertainments in her own home. Miss H——, while being treated by me, was under the constant observation and care of her physician, Dr. Smith, and it is by his courtesy that I describe her case. This cure has been permanent.

Mrs. B——, Bridgeport, Conn., came to me December 20, 1892, having been a confirmed neurasthenic for five years. I treated her for two weeks with warm douches and massage. She returned to her home, for the holidays, improved, and early in January again placed herself in my care. She remained here nine weeks, steadily gaining in strength and mental tone. As she was suffering from the effects of a lacerated cervix, I performed hystero-trachelorrhaphy, assisted by Dr. J. F. McKernon, of this city. I will quote from her husband's letter two months later: "At the time my wife went under your care she had received treatment at the hands of several specialists, and with little or no beneficial results to her nervous system. I feared she had become a confirmed invalid, and organized my household accordingly. It is now a little more than two months since she left you. Gradually she has assumed her family cares and responsibilities. She seems now quite like her former self, and has dispensed with the housekeeper."

Mrs. H——, sent to me by Dr. C. L. Dana, of New York City, February 4, 1892, suffering from neurasthenia of two years' duration. Symptoms: Almost constant headache, insomnia, neuralgias, and mental and physical inability. For four months before Dr. Dana treated her she had been entirely dependent on drugs for sleep and relief from pain. Baths he prescribed resulted in a prompt amelioration of all the above symptoms. She improved steadily, until after twenty-four baths she considered herself "better than for years." When in New York, a short time ago, she came to tell me that her improvement had been permanent. Space does not allow my reporting many more cases, the data for which are available, relating to the cure of neurasthenic doctors and other patients by thermo-therapy.

In these cases the treatment was regulated to consist with the condition of the pulse and the varying sensibilities of the patient, who was comfortable during and after each treatment, although the temperature was sometimes varied from 8° to 15° F., or more, all shock was carefully avoided. The room temperature was also regulated to suit each patient when naked. My experience in treating several hundred cases of neurasthenia with baths convinces me that they will not stand shocking. This is contrary to the apparent purport of most text-books on hydrotherapy, and for this reason I consider it of the greatest importance to call the attention of the medical profession to it, and more particularly as the cold bath is so commonly prescribed in neurasthenia. They seem to react well, and report that they "feel fine," after it, but this effect is transitory and nearly always at the cost of too great nerve expenditure. Nutrition does not always make up the loss, and in the end this treatment is a strain on the nervous system. It is good to exalt the nervous system moderately, whereby we may produce the normal degree of functional hyperæmia, which, as above shown, is absent in this disorder, but when an asthenic patient says he feels "fine," "splendid," or "deliciously," after a cold bath, he has probably been too highly stimulated and at a later hour will feel depressed in consequence, although he will not usually attribute this result to a bath which has given him such relief. His physician, be it regretfully said, will too commonly, when these conditions exist, fall into the error of recommending still colder baths, following hydropathic instructions perhaps, or what may be just as bad, will direct him to take, in addition, some unusual exercise which can but further exhaust his strength. Do not let us forget that we are dealing with nervous exhaustion and a delicate state of the organism. These patients should have baths carefully regulated to suit their constantly varying sensibility. If a cold bath is agreeable to a delicate patient he is an exception to the rule; but no matter how accustomed to cold baths he may have been in better health, as a neurasthenic he is peculiarly weak—important nerve-cells are not well nourished and you cannot re-establish their nutrition by violent shocks. By cold I mean now what is called cold in text-books on hydrotherapy, which seems approximately to be from 93° F. down to 40° F. Of course cold, as we know it, is relative heat, not absolute cold. The important fact we have to remember in thermal treatment is that the sense of heat will vary with the individual, and at different times in the same individual, and that therefore the real value of degrees of temperature in this treatment depends upon the state of the sensibility of the patient at the moment. The condition of the circulation is not always a safe guide to the immediate temperature requirements of the organism, though it does influence its reactions. Excessively irritable nerve-cells may react vigorously to a stimulus, but this does not prove that the waste following this activity will be promptly restored by nutrition, nor have we any reliable assurance from a temporarily normal circulation as to the capacity for resistance of these sensitive cells. The peripheral sensory nerves being abnormally irritable alters the reflex intensity of any stimulus applied to them. If, then, by artificial heat, or in any way, a degree of hyperæmia of the skin and a certain exalted condition of the pulse is induced in a delicate patient's case, if in this way "a sudden afflux of blood is brought to the skin, and the circulation both in the tisssues and nerve-endings becomes as active as that of a robust man after a vigorous exercise," and if at this moment we apply briefly to his naked body a temperature of 85° F., or some lower temperature said to be appropriate under these conditions, if, in a word, we follow carefully all the directions as laid down in books for a bath treatment of such a case, very likely a so-called good reaction will follow—the patient will feel exhilarated and his pulse and skin circulation may be up to the normal standard, but there is another reaction soon to follow, a relapse from this exalted condition must come, and then how far beneath the normal standard may this delicate patient's condition be depressed? Will he have recovered before the next treatment, and be in condition for a still higher degree of stimulation, as is sometimes recommended under these circumstances? Almost always a bath attendant, not a physician, attends to the carrying out of the details of such a bath. Were this not the case, were physicians to realize the great value to general medicine of a thorough understanding of this subject, then there would be less theorizing upon these baths by men who must have very little practical knowledge of them. I regret to have to speak in such an incidental way of such an important subject. Remember that the state of the sensibility is secondary to the organic state and indicative of it—of its requirements; that the objective phenomena of the local and general circulation have their greatest value as guides, when properly studied, with the total sensibility, and that the sum of the total sensibility as produced by a bath, may be known through the utterance of your patient at any moment after the beginning of his thermal treatment. Facts and experience abundantly show that each succeeding repetition of a temperature impression on a sensitive nerve-cell tends to alter it, and its association with other cells. The phenomena of habit are fully explained by this. A habit of co-ordination can be easily substituted in a simple functional disease. After a proper bath the neurasthenic patient will always experience a feeling of relief or of a moderate well-being. Such an effect from a single bath is in a degree transitory, but in it there has

been substituted a moderate impression of well-being for a general discomfort, and this is produced without excesssive nerve expenditure. In this condition the organic state of the patient has been changed, and there is consequently a new consciousness, subordinate to the new organic state, and this can be the beginning of a normal physical and mental habit.

Progress of Medical Science.

The Clinical Significance of Perigastric Adhesions.—According to the Paris correspondent of the *Lancet*, Professor Terrier, about a year ago, reported the case of a woman affected with intense pain in the epigastrium, due to the presence of adhesions binding the stomach to the neighboring organs. Laparotomy was performed, and the most careful examination failed to bring to light any other cause for the trouble than the existence of these adhesions, the rupture of which brought about a lasting recovery. Since then M. Terrier has had under his care a woman, aged fifty, in whom symptoms referable to the stomach had appeared ten years ago. These symptoms were dyspepsia, vomiting, and great pain. After a respite of two years the same trouble reappeared, accompanied with hæmatemesis. A second respite, lasting three years, was followed by a third attack, and a fourth attack occurring in October, in 1893, brought her in an emaciated state under the notice of M. Terrier. The epigastric region was doughy to the touch, and the stomach was dilated. Laparotomy brought to light a slight induration at the cardiac orifice and numerous adhesions between the stomach, the liver, and the omentum. The adhesions were divided, and the woman has remained well ever since. M. Championnière had under treatment three years ago a man who had suffered for twelve years from epigastric pains. The most contradictory diagnosis had been advanced to account for his trouble. Stoicesco, of Budapest, was the only surgeon who had suggested the existence of perigastric adhesions, the idea being based upon the fact that the seizures occurred one hour after meals, and reached a climax two hours later. Laparotomy was had recourse to by M. Championnière, and dense ligneous adhesions were discovered binding together the stomach, liver, and omentum. So hard were they that much difficulty was experienced in sectioning them. The only morbid antecedent that could in this case possibly account for the presence of the bands was an almost forgotten abscess of the liver which had emptied itself into the gut.

Pseudo-Paralysis Myasthenica.—At a recent meeting of the Berlin Medical Society, according to a correspondent of the *Medical Press*, Professor Jolly exhibited a case of this kind. He said the disease had of late been variously described, but not commonly known. The case was the second he had seen, the first had ended fatally. In the present one the condition permitted a more favorable prognosis. The boy, aged fourteen and a half years, was healthy until the commencement of the present illness. There was no nerve disease in the family. When aged one and a half year he had had fits that lasted some days, but never again. He had been quite strong, with good muscular development, and was an expert climber. The illness began in the summer of 1893. The first symptom was that the boy could not see the blackboard properly, as it was impossible to keep his eyes open long together. The eyelids fail after continued exertion. After rest and in the morning the weakness was not present, but came on again after continued looking. The next symptom was a tiredness of the legs, at first on mounting steps, but afterward on simple walking. In a short time he became so fatigued with walking that he would suddenly fall in the streets, but without loss of consciousness. Always after resting a short time he was able to walk on a number of steps further. Some months later the same symptoms appeared in the arms, and later on in the muscles of mastication and lips, so that at last the patient could not articulate. In the case first observed there was similar tiredness of the pharyngeal muscles. All the muscles were affected in the way that after a rest they performed their function, but after short activity lost their power, to become active again after rest. The ptosis, which at first had been so marked, was now present in much smaller degree, so that the boy could keep the eyes open for a quarter of an hour at a time. The tiredness in chewing was better, and in swallowing there was none at all, while in his first case the patient could not swallow after swallowing a few times, and died suddenly while eating. Electrical irritability appeared at first to be normal, but if the current were kept up somewhat longer, fatigue soon showed itself. The abnormality must be in the muscles themselves. There must be an alteration of the chemical condition on which the contraction depended. Some alkaloids were known that induced a similar condition, such as veratrine, physostigmine. As regarded the myasthenic condition, Professor Böhm, of Leipsic, had stated that it depended on a similar alkaloidal action, that of proto-veratrine. There must, therefore, be an abnormal condition in the muscles in these cases. There was the question also of the central nerve change, something similar to that described by Benedikt in 1868 as the "reaction of exhaustion." As regarded treatment, the muscles should be spared as much as possible, and when the patient could no longer swallow he should be fed by enemata. Electricity was said to be useful, and arsenic also, and there might be alkaloids that had an action antagonistic to the condition.

The Origin of Inflammations in the Urinary Tract.—According to Drs. Posner and Lewin, most purulent inflammations of the urinary organs are caused by micro-organisms introduced from without, in the majority of cases by means of a catheter. Instances, however, occur of severe cystitis and pyelonephritis where no such mode of infection is possible. The supposition has been hitherto that it might be derived from the intestinal canal, and it has been shown that the bacterium coli plays a considerable part. Experimentally, a superficial injury to the large colon has led to cystitis, pointing to a direct passage of bacteria from the intestine to the bladder. The authors endeavored to solve the question by closing up the anus and at the same time ligaturing the urethra. In all cases micro-organisms were found in the urine, while in stoppage of the urethra alone the secretion remained absolutely sterile. The organism found was almost always the same gas-forming bacillus belonging to the same group as the bacterium coli. The question, then, was whether the bacteria passed directly from the distended rectum into the bladder. The possibility of this occurring was present, as well-marked peritonitis has developed from an intestinal obstruction. Further investigation proved this event to be rare, for they found the bacterium coli not only within the bladder but in the kidneys as well, while the peritoneal fluid between the bladder and bowel was sterile. Posner and Lewin hold, therefore, that under favorable circumstances intestinal micro-organisms can be taken up by the blood and excreted through the kidneys—a process known to be present in certain infectious diseases. They proved this possibility by injecting cultures of the bacillus prodigiosus into the intestine and finding them in the bile, blood, kidneys, and urine. This would furnish an explanation of auto-infection from the intestinal canal showing itself, not only as an inflammatory affection of the genito-urinary tract, but also in other parts of the body.—*Berliner klinisch. Wochenschrift.*

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PROFESSIONAL RELATIONS WITH CRIMINAL ABORTION.

THE recent arrest of two regular physicians of this city on the nominal charge of accessories in a case of criminal abortion has justly aroused the profession to the danger that may attend a strict performance of duty under like circumstances.

The facts of the case are fully stated in the report of the proceedings of the Medical Society of the County of New York, which appear in another place. Briefly summarized, the points are these: A reputable physician was called to see a woman dying of septic peritonitis in the house of a midwife. The patient denied that any criminal operation had been performed and positively stated, to the best of her knowledge that the miscarriage of which the sepsis was the result was caused by a strain in lifting. The midwife stated that she had used only tampons to control the flooding. The gravity of the case made a consultation necessary. The consultant, after hearing the same story, proceeded to afford such counsel and assistance as seemed necessary, after which the patient was sent to a neighboring hospital. The hospital authorities promptly notified the police of the circumstances and the following morning the two physicians were taken into custody and escorted from their offices by two policemen to the police station. The attending physician was also taken to the hospital to be identified by the patient. The patient, however, was dead when the physician and policemen arrived. Before she died the patient charged the midwife with the abortion, but emphatically exonerated the two gentlemen who had endeavored to minister to her in her last extremity. In spite of this positive evidence, the physicians were taken to the police court, and thence, under the escort of two detectives, and in company with the midwife, were sent to the coroner's office. The coroner, taking an undue advantage of the situation, insisted upon imprisonment or bail, but was eventually persuaded by parties who were better able to understand the real merits of the case, to release the supposed culprits on their own cognizance. A coroner's jury of physicians subsequently entirely exonerated the attending physicians, but not until the suspicions of criminality against them were widely published by the daily press.

As almost any physician under like circumstances may be similarly treated, it becomes a matter of great importance to decide upon a course of conduct which shall guard the medical attendant on the one hand, and conform with the law on the other.

While it is well understood that no physician must violate the confidence of his patient, we believe that it is equally admitted that, in following out such a principle, he is not warranted in openly defying a law. In other words, it is not expected of him that he shall, even in a professional capacity, abet a crime. While he should not fear to perform his professional duty to the vilest sufferer who may need it, he is by no means called upon to be accountable for the circumstances which necessitated his services, particularly in such cases in which a suspicion of wrong-doing may attach to himself. While it is perfectly true that no reputable physician has been found guilty of producing abortion, it is nevertheless perfectly proper that he should use every means to be above even the suspicion of so doing. Thus it would seem to be his duty to protect himself under all suspicious circumstances. One of the latter is a call to the house of a midwife or an abortionist. The lesser evil of a reasonable doubt should, for his own protection, give way to the greater ones of danger to his practice and damage to his good name. He cannot, in complying with the letter of the law, afford to wait until his patient is dead before he divides his responsibilities with a proper official. Abortion is none the less a crime even if the patient lives; the only difference being that there is but one murder instead of two. In any and every event the physician in attendance should keep his own skirts clear.

A reasonable way of adjusting all apparent difficulties in a suspicious case would be to give information to a coroner, and preferably a medical coroner, who could then act with reasonable discretion, and assume the responsibility of obtaining the necessary evidence for conviction of crime, independent of any direct or unprofessional testimony from the physician himself. This would obviate entirely the report to the police, which so often ends in the escape of the real culprit and, as in the instance before us, in the shameful injury of innocent parties.

THE ABORTIVE TREATMENT OF COLDS.

ONE of the last of the many contributions to therapeutics made by the late Professor Dujardin-Beaumetz was an article on the abortive treatment of "colds," or more specifically, of acute bronchitis (*Bulletin général de Thérapeutique*, February 15, 1895).

The special and, in the author's opinion, almost specific, treatment of the "rhume," consists in the proper use of aconite. Dr. Beaumetz describes the varying tides in the popularity of this drug, and ascribes the changes to the fact that the preparations and strength differ as well as the reaction of the patient. For many years the French codex prescribed the tincture of the leaves, which is comparatively inert. In later times the root has been employed, and the results have been more satisfactory.

One disadvantage in the use of aconite lies, we are told, in the great difference in susceptibility to its effects. Every year, in France, deaths occur from the

use of aconite or its alkaloid, and Professor Brouardel is reported to have said he would never dare to use the drug. This is a condition of affairs quite different from that met in the United States, where aconite is used with the greatest freedom and is one of the mainstays of homœopathy, used in strong "mother tinctures." Bearing in mind the two disadvantages of aconite, its variability in strength and the idiosyncrasies of individuals toward it, Dr. Beaumetz still asserts that it is a most effective drug in acute bronchitis. He advises heroic doses, giving fifteen to twenty drops in a hot drink, and repeating this once or twice in the twenty-four hours. If much medication is applied at the beginning of an attack it will almost certainly abort it.

There is, however, a better method than this, viz., the giving of small and frequently repeated doses, as described by Ringer many years ago.

Another remedy which is very popular with the laity, is an ounce and a half of brandy in a hot infusion of violets.

The modern school inclines in the treatment of colds to use the coal-tar products, and ignores the old-fashioned teas, the antimonial and opiate powders of earlier times. But aconite, at least, will hold its place as a powerful help in the treatment of acute bronchitis and the so-called colds of the head and chest.

THE SPECIFIC TREATMENT OF TYPHOID FEVER.

A NUMBER of investigators are now engaged in the search after the curative toxin or antitoxin of typhoid fever, and from time to time certain somewhat encouraging results are published, although nothing positive has yet been obtained. Some of the more recent of these experiments were conducted by Professor Krauss, of Vienna, assisted by Dr. Buswell, of Buffalo. They were made with cultures of blue pus bacillus in bouillon, heated when three days old to a temperature of from 140° to 176° F. Subcutaneous injections of 7 minims of this sterilized culture were made on two successive days into guinea-pigs, and a week later the animals were inoculated with 45 minims of a virulent culture of the typhoid bacillus. None of these animals appeared to be injuriously affected by the typhoid injections, while those guinea-pigs inoculated at the same time, who had not received the preventive injection of the dead culture of bacillus pyocyaneus, died in about twelve hours. A trial of the dead culture was also made in the case of twelve men suffering from typhoid fever, two of whom died. In these two cases there were found ulcers partly cicatrized and also some patches of fresh infiltration, showing that the disease had progressed despite the employment of the remedy. In the cases that recovered there was nothing to indicate that the injections had materially modified the course of the disease. In three there was a distinct fall of temperature, generally transitory, after the first rise following the injections, but in others there was a successive appearance of spots of eruption during and after the employment of the injections, while the temperature curve was not affected. There were no untoward after-effects which could be attributed to the action of the remedy.

The results of these experiments were, on the whole, not particularly encouraging, despite the apparent antidotal action observed in the case of guinea-pigs. Certainly the time is not yet ripe for the introduction of the method into daily practice, though that the day will come when most cases of typhoid fever can be aborted or cured by the injection of some product of the specific bacillus (most probably an antitoxin) is within the range of probabilities—at least, one may now indulge in the hope of such a discovery without exposing himself to ridicule as a dreamer.

"ACADEMIES OF MEDICINE."

IT used to be considered sufficient to call a medical society simply a "Medical Society," prefacing the name of the locality or perhaps that of some distinguished physician. There is a tendency now to go a step further and call medical organizations "Academies." We note the creation of an Academy of Medicine in Chicago, Cincinnati, Cleveland, St. Joseph, Portland, and several other places. The "Academy" is, we believe, distinguished as a rule from the ordinary society by charging higher annual dues and by being a little more rigid in its requirements for admission. The name carries some dignity with it, and we trust and believe that these new societies will try and live up to their name. If there could be a law forbidding the creation of Academies of Medicine except under conditions calling for a high standard of scientific work and professional reputation, the increase and proliferation of these bodies would be an advantage. If, however, every local society begins to take upon itself a high-sounding name, while it is in fact a small and commonplace body, Academies of Medicine will soon become ridiculous.

We trust that a due sense of responsibility will always be felt among those who in the future organize and name themselves Academies. In the history of medicine, Academies of Medicine have always been composed of men of learning and experience, and their work has been of a high character. It would be unfortunate if the name became one of reproach.

Look to yourselves, therefore, Academicians, for what says Plautus, *Virtute ambire opportet, non nominibus*—or words to that effect.

PROPOSED DIVISION OF THE DEPARTMENT OF CHARITIES AND CORRECTION.

THE necessity for reforms in the conduct of New York's Department of Charities and Correction has often been referred to in the MEDICAL RECORD. We are pleased, therefore, to note the introduction by Assemblyman Pavey of a bill which, if it becomes a law, will prepare the way for much-needed reforms. The bill proposes to strike at the root of the matter by abolishing the existing department, and establishing in its place a department of Charities, and a department of Correction.

The desirability of such a change as this has long been apparent to persons who were aware how unwieldy the existing conglomerate department had become. In an earlier day, when New York was much

smaller than it has now become, it may have been desirable from some points of view to associate the city's dependants and delinquents under one management. But it long since became impossible to continue this alliance without serious detriment to the interests of the dependants at any rate, and perhaps of the delinquents as well. It hardly requires argument to show the unmanageableness of a department comprising hospitals, prisons, asylums, and almshouses to the number of twenty-five, with a population of 18,500. The only question really at issue is as to the feasibility of the proposed separation, and as to this there is equally little question in the minds of those persons best competent to judge, and whose judgment is unbiassed.

We trust that the Pavey bill will at once become a law. When the reforms it contemplates are put in operation, its benefits will be so manifest that the man with whose name it is associated, and those who have worked with him for the bill will be gratefully remembered for years to come by thousands of unfortunates whose condition it will ameliorate.

THE ETIOLOGY OF THE TIGHT WAIST.

THE hand of science falls with a dull uncarnal thud upon the constricted waist of woman. It tells why she constricts, and that the purpose from the beginning was an unholy one. The women of Decadent Greece first began it in order to emphasize the proportions of their hips and exaggerate the delusive prominence of the bosom. The simple physiological act of respiration was perverted by the tightened girdle until the act became one of sub-clavicular enticement. In fine squeezing, the waist brought into lustful prominence the capacity of women for easy reproduction and subsequent plentiful lactation. Hippocrates denounced it in the women of Cos, Galen reproved the practice, Martial jeered at it, but still the waist was tightened and the double ovoid continued to glide before the ardent gaze of man.

The fact is, then, that women have tightened their girdles not because they wanted to do it, but because men approved of them and desired them the more for it. Why should women, then, be blamed? The practice is admitted unsound by all authorities, from Hippocrates to Dio Lewis, but men have insisted on it. Let the sanitarian and artist direct their attention, then, to man, the brute, not to woman, his victim. When this carnal but necessary factor in society and dress reform is cured of his evil ways, women will dress as they ought; but not before.

Congenital Spots or Anomalies.—At a recent meeting of the American Academy of Arts and Sciences, Dr. Stephenson, U.S.N., read a paper entitled: "Congenital Spots or Anomalies—A Means of Racial Identification; with Remarks on Linguistics in Connection with Migration of Peoples." Reference was also made to the studies of the Annamese savant, Petrus Truong Vinhky, of Cholon (near Saigon, Cochin China), and to his works on linguistics, comparative philology, etc. Such investigations, as well as examination of bodily peculiarities enable us to trace the origins and history of various peoples in their world-wanderings.

News of the Week.

The Medical Association of Georgia will hold its forty-sixth annual meeting in Savannah, on April 17, 18, and 19, 1895. The President of the Association is Dr. W. T. Westmoreland, and the Secretary, Dr. D. H. Howell, both of Atlanta.

Unusual Mortality in Connecticut.—The returns of the Connecticut State Board of Health, for February, show a death-rate nearly twenty-five per cent. higher than the average for the same month during the past five years. The greatest number of deaths from any one disease was from pneumonia.

Dr. W. G. Sampson died at his home, in Tiffin, O., on March 18th. He had practised in that State for over sixty years, and was ninety-two years old at the time of his death.

The Kentucky State Medical Society will hold its fortieth annual meeting in Harrodsburg, on June 12, 13, and 14, 1895.

The Charcot Monument Fund.—The sum of the contributions to the Charcot Monument Fund thus far received by the American Committee is $642.

A Woman's Hospital in Williamsburgh, N. Y.—A woman's hospital in memory of the late Robert Macoy is to be established in Williamsburgh by the Robert Macoy Memorial Association, which was organized about a month ago. As a commencement, Mrs. Elizabeth St. John has given the Association her house. This will be a training-school for nurses connected with the institution.

The International Congress of Gynecology and Obstetrics will convene at Geneva, Switzerland, in September, 1896, instead of 1895 as previously stated.

Cases of Hydrophobia have recently developed in Florida and in Buffalo, N. Y.

Gift to a Hospital for Consumptives.—J. Pierpont Morgan has given $20,000 to erect a stone sanitarium at Liberty, Sullivan County, where consumptives will be treated. The structure will be on a tract of land consisting of two hundred acres, which has already been purchased.

Anti-Vivisectors and Plastic Surgery.—The story runs that Dr. W. W. Keen, of Philadelphia, wishing to transplant the nerve of a dog into the leg of a man, sent to the city pound for a dog. He there learned that the pound was controlled by the Society to Prevent Cruelty to Animals, the President of which, Mrs. Caroline Earle White, is opposed to vivisection. When Mrs. White learned what the Professor wanted she refused to permit him to have a dog, despite the fact that the life of a human being depended upon it. In her letter to the Professor, Mrs. White said: "In answer to your note I will say that, although I should always approve of sacrificing a dog's life in order to save that of a man, unless the latter was a curse to the world and the former a boon and blessing (which is sometimes the case), I think that I am justified in refusing to give

you one of the dogs at our pond for an experiment which may prove of benefit to one of your patients or may not, the latter being the most likely alternative." It thus seems that the lady knows a great deal about plastic surgery and the relative value of human and canine life.

A Yellow Fever Congress.—It is proposed to hold a congress on yellow fever during the Cotton States and International Exposition at Atlanta. The plan proposed is that the leading physicians of the city invite the leading physicians of the South Atlantic and Gulf cities, with a view of securing concert of action on quarantine measures and methods of dealing with the disease.

Death of Dr. Bernard E. Vaughn.—Dr. Bernard E. Vaughn, who was an assistant surgeon to the New York Cancer Hospital, and instructor in genito-urinary diseases at the New York Post-graduate School, died on March 5th. He was a native of Worcester, Mass., and was graduated from the College of Physicians and Surgeons, New York, in 1887. He was a member of the house staff of St. Luke's Hospital from 1887 to 1889.

Death of Dr. Dubois.—Dr. Robert Ogden Dubois died March 9th, in the thirty-sixth year of his age. He was a graduate of the Yale Medical School in 1881, but had practised in New York for a number of years.

Death of Dr. Azariah D. Newell.—Dr. Azariah D. Newell, one of the best-known physicians in New Jersey, died at his home in New Brunswick on March 9th, after a short illness.

Sir William Savory, Surgeon to St. Bartholomew's Hospital, died on March 4th, aged sixty-nine years.

The Storage of Antitoxin.—Professor Thomas R. Fraser writes to the *British Medical Journal:* "It seems to me that much unnecessary trouble is being taken in the storage and distribution of diphtheria antitoxin. I refer to the elaborate precautions which are required so long as it continues to retain its liquid form. I would suggest that in future the liquid antitoxin should, as soon as it has been obtained, be evaporated *in vacuo* over sulphuric acid, and stored and distributed in the form of a dry powder, whose exact quantitative relationship to the liquid antitoxin or to the toxin itself could easily be ascertained and stated. There can be no doubt that in this dry form diphtheria and all other antitoxins will retain almost indefinitely their original effects. Were this plan adopted it would also be possible considerably to reduce the bulk of fluid injected under the skin.

The New York State Board of Medical Examiners.—The State Board of Medical Examiners, representing the Medical Society of the State of New York, has made a report of its work for the year 1894, which contains a number of interesting data. The total number of candidates actually examined was 536. Of these, 470 were examined by the Board representing the Medical Society of the State of New York; 59 by the Board representing the Homœopathic State Medical Society; and 7 by the Board representing the Eclectic Medical Society of the State of New York. Of the first, 316 passed, and 32.7 per cent. were rejected. Of the second, 46 passed, and 22 per cent. were rejected. Of the third, 3 passed, and 57.1 per cent. were rejected. Seventeen candidates were rejected a second time; 6, three or more times; and 54 were unable to secure a license.

It appeared that, whereas prior to 1891 the number of physicians locating in the State of New York was from 700 to 800, there are at present less than 400. The fact, however, that there were 536 applicants is accounted for not only by an increase in the number of medical men, but principally by the fact that the State license has become a matter of such importance that most of the States having boards of medical examiners accept them as licenses to practise, without exacting added medical tests. Under the provisions of the law the Board of Medical Examiners is permitted to indorse as sufficient to practise the licenses issued by other State boards of medical examiners, provided the standards of these boards are not lower than those of the New York Board. Numerous applications from various States were received for this indorsement, but on investigation it was found in each instance that the standard was not sufficiently high to warrant approval of the documents submitted. The Board complains that the preliminary education of medical students and candidates for the licensing degree in the State of New York is not satisfactory. It finds that while the standard is far above that established in other States, it is still insufficient and not on a par with the requirements exacted from students of other professions in the State. In accordance with this opinion the Board adopted a resolution, declaring that the best interests of the public and of the medical profession would be materially advanced by gradually increasing the minimum requirements as to general preliminary education, until no candidate be entitled to matriculate in 1897 at a degree-granting medical school who shall not have completed at least a full high-school course. The public may well congratulate itself upon the outcome of the agitation directed to its welfare and interest, instituted and carried to a successful issue by the medical profession.

Foot and Mouth Disease Attacking Human Beings.—A cablegram announces that physicians throughout Europe are somewhat apprehensive of the spread of what is described as the human form of the foot and mouth disease, which has been, for a considerable time, prevalent in Berlin. Specialists who have investigated declare that the bacteria are identical with those of cattle suffering from the complaint. They report the pestilence as dangerous, and say it is causing frequent deaths among human victims. Professor Virchow and a committee of the Berlin Medical Society are making an investigation of the milk, which is said to be the usual vehicle of the contagion.

Dr. Edward H. Peaslee has been appointed School Commissioner.

A Surgeon Gets His Fee.—Dr. Emil Schopen, of Yonkers, brought suit to recover the balance of a fee for surgical attendance on Mrs. H. R. Baldwin. Mrs. Baldwin was injured in an accident on the Hudson

River Railroad in 1891, when several persons were killed. Among the operations performed on her were the removal of the left hand, three fingers from the right hand, the removal of both eyes and ears, and the building up of a new-growth of skin on the skull. Dr. Schopen treated Mrs. Baldwin for sixteen months. His bill was $3,000. He sued for a balance of $1,400. The jury gave the doctor $1,150, which seems little enough for all that was done.

The Coroner to be a Lawyer.—The following report of the special committee of the Medico-Legal Society has been submitted to the Legislature:

"To the Honorable the Legislature of the State of New York:

"The select committee of the Medico-Legal Society of New York, to whom has been referred Senate Bill No. 81, introduced January 14, 1895, by Mr. Senator Guy, entitled: 'An Act to Amend title Four Hundred and Ten of the Laws of 1882,' entitled, 'An Act to consolidate into one act and to declare the Special and Local Laws affecting public interests in the City of New York,' so far as the same relates to coroners. Respectfully report: 1. That they approve of the Bill so introduced by Senator Guy and recommend its passage. 2. That they recommend that the coroner so to be hereafter chosen should be a counsellor-at-law of at least ten years practice. 3. We recommend that the Medical Examiners shall be skilled in Medico-Legal Science, and selected with regard to their professional fitness, and without reference to political considerations. 4. We recommend that line 20, section 1779 of proposed Bill be amended by changing the words 'Police Justice' to the words 'Justice of the Supreme Court,' as the office of Coroner in our judgment under the law should rank with that of a Justice of the Supreme Court.

"Respectfully submitted, March 9, 1895. Clark Bell, *Chairman;* A. H. Dailey; H. W. Mitchell, M.D.; Moritz Ellenger; Wyatt Johnson, M.D.; T. H. Tyndale. Unanimously approved by the Medico-Legal Society, March 13, 1895."

Voluntary Admission of Patients to Hospitals for the Insane.—The following resolution, relating to the voluntary admission of patients to Hospitals for Insane, was adopted at the session of the Medico-Legal Society, held on March 13, 1895:

"*Resolved*, That in the opinion of this Society the adoption of a law permitting voluntary admission to hospitals for the insane, of such persons as may desire treatment therein is eminently proper and desirable, and the highest interests of the insane demand the incorporation of such a law among the statutes of the State of New York."

Schweningerism.—Schweninger, by the grace of Bismarck, Professor, gives these details of his anti-fat treatment: "Eat as much as you please as often as you like; but not too much at a meal. Drink no liquid at any meal. When thirsty drink a little good aërated water, with a few drops of lemon or orange juice squeezed into it; but only an hour before or an hour after meals. You may also take a little white wine or cider that is not sweet, or now and then a cup of tea, but never coffee. Smoke a little, and indulge with moderation in the other little luxuries to which you have been accustomed. Bathe often, but do not wet the entire surface of the body at once. Exercise should be regular. Change your position as often as possible. Do not remain standing or sitting or lying too long at a time, nor pass too many hours in bed. Take your meals at a different hour every day. Never eat at regular hours, but whenever you are hungry; and, if it be not too soon before or after a meal, drink whenever you are thirsty. Better eat a dozen times a day than overload your stomach at two or three heavy meals at long intervals. Do not eat the same article of food too often."

Dr. William T. G. Morton.—Among the fifty-three names which are to be inscribed as a roll of honor in the dome of the new chamber of the House of Representatives, in the State House, at Boston, and each of which is intended either to mark an epoch or to designate a man who has influenced the course of events, we note that three were borne by members of our profession. Only one of these three, however, was chosen on account of eminent services to medicine. The name so dignified is that of Dr. William T. G. Morton, who was the prime mover of the experiments which led to the establishment of anæsthesia by sulphuric ether as a matter of practice. Of the priceless value of this boon to the human race it would be superfluous at this day to speak. That the name of the man through whom it came should be held in lasting honor, and given a high place in the list of benefactors to mankind is but just and right.

A Lavish Digestive Cavity.—Commenting on the statement of the Medical Record that, at a late meeting of the New York Academy of Medicine, "Dr. Achilles Rose exhibited a cannon-ball, weighing over three pounds, a form which had given satisfaction to himself and others in constipation," the *Railway Surgeon* remarks: "Any man who would take three-pound cannon-balls must have a lavish digestive cavity, and an awful constipation. The generous pink-tinted oral cavity of the hippopotamus might smoothly gulp them; but we would not, for our part, take them under any circumstance unless they were powdered or sugar-coated. They will never be popular. This is too much like heroic medicine."

Female Professors in Medical Colleges.—The College of Physicians and Surgeons of Kansas City now has a lady professor in the person of Dr. Katherine Berry Richardson, who occupies the chair of Visceral and Histological Anatomy. The Board of Regents of the University of Michigan has removed the barrier of sex to the occupancy of its chairs, and a movement has been set on foot in Detroit to endow a female professorship. It is estimated that a capital of $30,000 will suffice for the endowment of the chair, and one enthusiastic advocate of the rights of her sex has already subscribed $10,000, while four others have among them given $4,000.

The Estate of the Late Dr. Oliver Wendell Holmes amounted to $112,000.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 7, 1895.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

The Index Medicus. — On motion of DR. GEORGE THOMAS JACKSON and at the recommendation of the Council, the President was directed to appoint a Conference Committee, preferably the present Library Committee, to confer with committees appointed by other libraries with regard to supporting the *Index Medicus*, the publication of which Mr. Davis had continued at personal loss, and which must be discontinued unless two hundred additional subscriptions or $2,000 were secured. The President appointed the present Library Committee. At the request of the Committee on the Bureau for Nurses, the Bureau was placed in charge of the Executive Committee for the present.

Malnutrition, Practically and Physiologically Considered.—DR. J. HARVIE DEW, opened a general discussion on this subject with a paper. Malnutrition, he said, could not be classified as a distinct disease, and yet because of its relative importance it should have a well-recognized place in the literature of medicine. Correctly defined, it was an incidental symptom or condition, but always one to be considered with the greatest care in the scientific management and treatment of disease. The energy-producing and spending capacity of all animal bodies depended directly upon the activity with which the processes of nutrition were conducted and maintained. The continued accomplishment of this essential requisite made it necessary that a large number of organs and functions should be in good, if not perfect, physiological order. There must be a comfortable condition of mind and body and a relish for food; mastication must be complete, and the stomach capable of receiving and holding food; the digestive fluids must be sufficient in quantity and up to the standard in quality; the absorptive capacity of the blood-vessels and lymphatics along the alimentary canal must be active; the peristaltic and eliminative work of the bowels must be normal; the heart's action must be sufficient in force and regular; the blood must be suitable in quantity and in oxygen-carrying capacity; the processes of tissue assimilation must be physiologically correct; the elimination of waste matter through the excretory organs must be effectually accomplished.

If we consider for a moment this large and formidable array of functions and processes necessary to perfect or normal nutrition, it would be easy to understand that diseases, indiscretions, imprudent indulgence, and exposure of any kind might readily disturb one or more of them and thus lead in the end to malnutrition. The intimate relationship of the nerves of the various organs of the body serving as a basis of uniting and harmonizing one with the others would account for the fact that organic disease of any kind would sooner or later disturb a number of these nutritive functions. Especially was this the case where the febrile reaction reached a high degree. When the illness or disturbed functional conditions had continued any length of time the active symptoms of malnutrition exhibited themselves in loss of or defective digestion, abnormal bowel action, weakness or languor, depressed heart action, nervous disturbance, loss of weight, etc.

In the treatment of progressive disease the physician endeavored by every possible means to maintain the nutrition of the patient, giving the most nourishing and most easily digested food, stimulation, etc. When the disease was at an end the work of building up or restoring the energies began by correcting the functional disturbances through which malnutrition had been induced. In the great majority of cases this afforded the promptest possible means, and he wished here to impress the fact that in general medicine there were few well-established specifics. Whatever might be the capacity of the knife and certain remedies resorted to by specialists and general practitioners for the removal of certain pathological conditions, it must be remembered that the removal of any evidence of malnutrition, and the improvement of the general health of the patient, played a most important part, and often the essential part, in effecting a complete restoration.

When the physician had overcome the condition of malnutrition, the patient might be heard to say for months or even years afterward that he had never been so well as since that spell of sickness, which he regarded as a blessing. On the other hand, when proper attention was not given to restoring the damage, nature struggled up to a certain point, stopped its efforts at repair, and the patient would be heard to say that he had never been well since that last sickness. This showed the necessity of restoring the nutritive functions, if possible, to their normal condition before pronouncing the patient cured.

In the treatment of malnutrition many physicians declared medicines of no value, and trusted to good food, change of climate, etc. In some instances these might prove sufficient in themselves to accomplish complete restoration, but in the great majority of cases the patient's means or business would not permit of him carrying out such instructions, and in any event the judicious use of medicines would aid. The original cause should be removed where possible. Then, no fever being present, the next point to consider was the condition of the alimentary canal and the secretions necessary to its functions. The bowel should be kept free. Often calomel was of service, with or without some purgative, as rhubarb or cascara. Loss of appetite would often be found due to lack of flow of digestive fluids. When fever was not present, and the active processes of the disease were at an end, the bitter tonics were indicated before meals. Catarrhal processes arising from imperfect digestion during the illness called for hot water, hydrastis, etc. In many instances where food led to gastric discomfort an excellent result followed the use of infusion of hops. In anæmia following the febrile state there was deficiency or impairment of the blood-corpuscles and of their capacity to carry oxygen. In some instances fresh air, etc., would restore the deficiency, but often iron was of great aid, and a bitter tonic would add to its efficacy. One or more of the digestive fluids were liable to be deficient in some of their ingredients, which might be learned by a study of the case, by trial of diet, or by use of the digestive ferments. Alcoholics in some form, judiciously administered with the food, were of value in many cases, having a stimulating effect like kindling-wood in a fire. Black coffee after dinner had a stimulating action on account of its bitter properties and the caffein which it contained. The addition of some hydrocarbon, like cod-liver oil, was often of great value.

Another type of malnutrition was of interest because it was not the outcome of any special or definite disease, but was more likely to be the result of habit, and might date back to childhood. He referred to persons met with in every walk of life, who always had an emaciated, badly nourished appearance. They might live to old age without serious discomfort. The majority of them did not take sufficient food or fluid to supply the physiological needs of the body, while others took an immense quantity, but it passed through undigested and unabsorbed. The physician was able to greatly improve the bodily and mental state of the former class by prescribing a more liberal diet, adding perhaps a pint of milk (in a form most suitable to the case) between meals, and bearing in mind the fact that the body by weight was two-thirds fluid. In the second class at-

tention should be given the kind of food instead of increasing the quantity.

Dr. Dew said, in conclusion, that his object had been to give only an outline of this very broad subject, malnutrition, as it was impossible to consider all its features in one paper.

The Treatment Must Vary with the Case.—Dr. A. Jacobi thought he had never risen to participate in a discussion with greater misgivings than to-night. The author had gone rapidly over the whole field of physiology and pathology, and a good deal of that of materia medica, and it seemed there was very little more to be said on the general subject of malnutrition. He was quite in accord with the paper.

Regarding nutrition and nutriments, he said it was a peculiar fact that when we had to deal with even the best so-called nutriments in the world we found that what was good for one individual might be far from being good for another. For instance, it was admitted that milk was the best nutriment for the young and for the old, but particularly for the young. On the other hand, we knew that if we gave milk to a child suffering from malnutrition and paid no heed to its effects, we were liable to make a grave mistake. A baby might not thrive on its mother's breast; it might on another's breast; and there were some which thrived only after being placed on artificial food. Why? Because there was not uniformity of the digestive organs and of the digestive secretions in different individuals. This was only one example of a great many which might be cited, showing that positive rules could not be made in dietetic treatment of malnutrition. Nothing was more erroneous than to suppose that in every case of anæmia, or every case of malnutrition, iron was the proper thing. For instance, in anæmia due to gastric insufficiency iron was not indicated at all. As long as the stomach was not in proper condition iron ought not to be given. Yet he knew of doctors prescribing it in inflammatory conditions before the fever had subsided. In many cases arsenic was better than iron, but, again, there were some persons who could not take arsenic at all. The author had well stated that malnutrition was only a symptom, or a complex of symptoms, resulting from some change in the physiological condition of one or more organs. In malnutrition depending upon brain neurosis, if there were acute symptoms, avoid alcohol and coffee. One should also avoid alcohol in nephritis, although it might be useful in some other cases of malnutrition. He repeated that malnutrition was not a disease in itself, but a symptom, and the treatment must vary just as in anæmia, which also was dependent upon a variety of causes, or was of different forms and called for treatment according to the case and not according to the name.

Causes of Malnutrition Classified.—Dr. W. H. Thomson said that when the author had asked him to discuss the subject of malnutrition he had replied that it was a subject as wide as all outdoors, and therefore he would not attempt to touch upon more than one phase of it. Every therapeutist should start out with the principle that he was treating the patient instead of his disease, and should remember that there was one significant symptom which should have his attention in order to correctly shape his efforts, namely, that form of malnutrition which led to emaciation. While the causes of emaciation might seem extremely numerous, yet on reviewing them it would be found that they could be generalized under six or seven heads, and that others were very exceptional. Each one of the causes which he was about to name went very far toward shaping our therapeutic procedures. The first and commonest cause of emaciation was fever. The very term febrile emaciation suggested at once that emaciation meant something very different from being merely thin. A person might be very thin and yet have no signs of being emaciated. True emaciation was a loss of every tissue but one. The exception was the nervous system, which Dr. Thomson said never lost in bulk. Unless there were a loss in muscular tissue, and also in bone, the case could not be classed as one of real emaciation, notwithstanding a diminution in weight; it was simply one of reduction of fat. This was almost always true of jaundice, where the thinness was due to loss of fat, while the muscles and bones remained the same. In contrast therewith was the thinness of phthisis.

Fever giving rise to emaciation was almost synonymous with a toxic cause. Having mentioned pulmonary tuberculosis as one cause of fever emaciation, Dr. Thomson placed in the same category the emaciation of pernicious anæmia. While this was called an anæmia, yet it was a type of fever. Not all forms of anæmia led to emaciation; for instance, chlorosis. The emaciation connected with febrile conditions was likely to last as long as the fever continued, and this in turn would remain until we got rid of the toxic influence. The treatment of the malnutrition, therefore, must be symptomatic unless we could counteract both the toxic origin and the febrile process.

The second great class related to disorders of the alimentary canal. In gastric dyspepsia, ulcer, and other organic conditions attended with vomiting, emaciation would come on sooner or later, and he had been led to seek first and last for something which the stomach would digest. There was a marked difference between diarrhœa and dysentery; diarrhœa seldom produced emaciation, although it lasted for years, while dysentery caused emaciation from the fact that the reflex irritation and excessive peristalsis hurried the food from the stomach on to the rectum; it could not remain long enough to be digested. Here he remarked that nervous disorders did not cause emaciation, with certain exceptions, as some forms of insanity.

A third cause was malignant disease; a fourth, diabetes mellitus. Further causes were very uncertain. For instance, one might suppose Bright's disease was a cause, but almost invariably the emaciation seen in this disease was due to one of the other causes mentioned, more exactly gastritis. The speaker thought that in Graves's disease the cause was in an intestinal poison, and by attention to diet, giving milk and cutting off animal food, he had usually been able to arrest the emaciation. In chronic articular rheumatism, he doubted whether fever was not the sole explanation of the emaciation.

Treatment by Abundance of Food and Rest.—Dr. Landon Carter Gray remarked that any man who had been in practice ten or twenty years must appreciate the fact that text-books did not deal with many questions which came up in every-day life. In the early years of his experience he had seen many cases of nervous diseases, mostly of subacute or chronic type, in which it was exceedingly difficult to get results which were pleasing, either to himself or to his patients. After some years of varying failures he came across Weir Mitchell's book on "Fat- and Blood-making," took a trip to Philadelphia, spent several days with Mitchell, and came away perfectly persuaded that he was making such marvellous cures as he was credited with by the popular voice. Returning home, he applied the method to some of his own patients, and was frightened to see those who had been reduced to living skeletons, by seeming inability to take food or by vomiting, begin, after a week's confinement to bed, massage, and compulsory feeding, to take and even relish three meals a day, and a quart of milk and a pound of beef converted into beef-tea between meals, and when he had seen the urine crowded with amorphous urates, he had been still more frightened. Nevertheless the patients had gotten well, and had remained well, dating their return of robust health back to that sickness.

Dr. Gray could not agree with Dr. Thomson that nervous diseases with few exceptions did not cause emaciation. He had seen it in myelitis, in neuritis, in

syphilis of the brain and cord, in different forms of paralysis, and, of course, in neurasthenia, although there was grave doubt in his mind as to how far anæmia was not due to the condition of the intestinal tract in neurasthenic patients.

In treatment it was less a question of the kind of food in most cases than of quality, quantity, variety, and good cooking. He had found again and again that good results came in almost hopeless cases by impressing upon the patients the necessity for taking a large quantity of food, even though they had not much appetite for it.

Just as great difficulty was encountered in leading persons who had got into a condition of malnutrition to understand that they could not continue to work up to their full physiological limit, mentally or physically. They must rest until by taking and appropriating an extra amount of nutriment their former physiological state had been restored. There would be nothing unreasonable in compelling an elephant to pull a furniture van to Central Park, but to require a child to do the same thing would end in double murder.

The necessity for good cooking might be impressed by relating a story which he had once heard of a man who had had his house newly furnished, and while congratulating himself upon the result was reproached by his wife for not having a sufficient number of mottoes upon the wall, such as "God bless our home." He responded that he would be willing to comply with her wish if she would have one put up in the dining-room, "God damn our cook." However, Dr. Gray thought the cooking in this country had been improving, and this might account in some degree for apparently a diminution in the number of dyspeptics.

Malnutrition from the Standpoint of the Dermatologist.—Dr. P. A. Morrow supposed that the advocates of the local origin of skin diseases would not be inclined to assign much importance to malnutrition as an etiological factor. But in common with most dermatologists in this country, he believed there was a close relation between disorders of the alimentary organs and the skin, and that there were a large number of skin affections which were purely symptomatic of disorders of nutrition. Nutritive disturbances played an important part not only in initiating diseases of the skin, but also in perpetuating them. It was very evident that the skin would participate in any impairment of nutrition, and by virtue of this its capacity for resistance was diminished. The influence of malnutrition in the production of skin diseases was perhaps most conspicuous in the extremes of life, in infancy and in old age—in infancy, when the elements of the skin were in the process of development and consolidation, and at a more advanced period, when there was a tendency to degeneration of the cutaneous structures. In the former, a familiar example was skin diseases of eczematous character. Half the cases of skin affections in children belonged to this class, and a common cause was insufficient or improper food, whether breast-milk or other kind. In old age we saw senile pruritus, epithelioma, etc., resulting from malnutrition and a tendency to degeneration.

Whether we accepted the traditional French doctrine of a dartrous diathesis or not, Dr. Morrow thought we must recognize the condition in which there was an excess of uric acid and oxalate of lime as so constantly associated with certain forms of skin disease as to almost certainly stand in the relation of cause and effect. In many cases of syphilis a satisfactory result could not be obtained from specific remedies until we had overcome a condition of malnutrition.

The Influence of Malnutrition upon the Throat, Nose, and Ear.—Dr. R. C. Myles considered the subject in two relations: 1st, to what extent did malnutrition affect the nose, throat, and ear? 2d, to what extent did abnormal conditions of the nose, throat, and ear produce malnutrition? In his experience malnutrition did not affect the nose, throat, and ear nearly as much, nor as often, as was usually inferred. Excluding special diatheses and diseases, such as tuberculosis and syphilis, malnutrition manifested itself chiefly upon the nerves and muscles of the larynx, upon the auditory nerves, especially tinnitus and passive congestion phenomena, upon the nose by diminishing its heat-producing properties, by thickening the mucus and causing œdema of the membrane. On the other hand, excessive local conditions, hypertrophic and proliferative, had frequently been causes of general malnutrition. For instance, malnutrition produced by great loss of saliva, great quantity of muco-purulent matter entering the stomach, or flowing into the bronchi and causing bronchitis, which in turn led to general malnutrition. The history of medicine was replete with cases where local trouble in different parts of the body having been removed, the nutrition and general health were restored.

Electricity in Malnutrition.—Dr. A. H. Goelet thought every case of malnutrition must be treated upon its merits, and a clew to the treatment would often be furnished by examination of the blood and of the excretions. But what he wished especially to speak about was the value of electricity in improving the nutrition, more especially the faradic and static currents. He mentioned some, and could mention many more instances where the improvement in general nutrition was out of all proportion to the influence on the local condition to which the current had been directed. On the other hand, a case was cited in which the local and general improvement had both been remarkable. A girl of seventeen years, reduced to sixty pounds in weight from a uterine fibroid extending up to the umbilicus, and too near death to admit of hysterectomy, which some gynecologist had suggested, was treated systematically with electricity, and improved so rapidly that she was soon able to go out, had now attained to a weight of one hundred and twenty-five pounds, and the tumor had been reduced to the size of a walnut. In addition to diet and medicines to correct malnutrition, something was required to stimulate the secretions of the body, and electricity had that effect.

Dr. M. L. Rheim spoke of the effect of malnutrition in diminishing the vitality of the gums and tissues on which the teeth depended for their sound state, and said that, on the other hand, he had frequently seen small amounts of pus exude from around the teeth, and, being swallowed, interfere with the digestive processes and lead to malnutrition.

Wooden Bread.—A German periodical devoted to wood industries announces that food products consisting partly of wood are now manufactured. At Berlin a factory has been built which is turning out about two hundred quintals of wooden bread a day. Sawdust is subjected to chemical treatment, after which it is mixed with one-third farina and prepared like ordinary bread. The product at present serves only as food for horses, but the Berlin Tramway Company, which is the most important customer of the factory, is well pleased with the results. The manufacturers say that wooden bread constitutes also an excellent food for man.—*The Sun.*

A Convincing Temperance Argument.—An English temperance agitator, Miss Weston, publishes in *Ashore and Afloat*, under the caption of "A Drunkard's Brain—No Joke but Awful Truth," a statement that at an inquest recently held upon a noted drunkard, on opening his skull, "the odor of alcohol that filled the room was sickening. One of the surgeons then struck a match and held it close to the head. Immediately a blue flame enveloped the whole of the exposed brain." Miss Weston seems to regard truth as a matter of slight importance compared to the virtue of total abstinence.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Special Meeting, March 16, 1895.

EGBERT H. GRANDIN, M.D., PRESIDENT, IN THE CHAIR.

The Rights and Privileges of Physicians Called to Cases of Abortion, etc.—The SECRETARY read the call for the special meeting, signed by twenty members, as follows:

Whereas, a number of instances have occurred in this city where reputable members of this Society have been arrested for complicity in malpractice cases, without even the shadow of a reason for such action on the part of the police; therefore, we, the undersigned, respectfully request you to call a special meeting of the Society for the purpose of ascertaining the rights and privileges of physicians who may be called to attend cases of abortion, etc.

THE PRESIDENT stated that, in the judgment of the members who had signed the call, an indignity had been offered the profession, an indignity which, if not protested against, might become a precedent for the infliction of a similar indignity on each and every physician when, in the pursuit of his vocation, he was called to the bedside of a dying woman. It would seem that the profession was impaled on the prongs of a dilemma which confronted it whichever way it turned. If we did not respond to calls of this nature we were termed, and rightly so, unfeeling and unworthy the name physician; if we did respond, and on suspicion reported the case to the authorities, if the suspicion proved unfounded, it was a question whether we were not open to a suit for libel; furthermore, if we did report the case and the symptoms supported the suspicion of malpractice, we were liable to arrest and the consequent notoriety. We were here, then, to counsel together calmly, dispassionately, as to our rights and privileges in this matter. The medical profession of this city had always stood on the side of law and order. We were here to protest in a forcible manner against the assumption that the presence of a medical man at the bedside of a dying woman was *ipso facto* evidence of wrong doing, of being an accomplice in a criminal act performed before our advent. We were here possibly also to express again, as we had over and over again, our utter abhorrence as medical men of criminal fœticide. And while we were about it, we might as well inquire why this crime not only existed, but seemed to be on the increase in this community. The President felt that the statement would pass unchallenged, that a reputable man had never in this city been found guilty of criminal abortion. It was the midwives, and the men under the guise of specialists in diseases of women, the notorious abortionists, who committed this crime, and who were found out, who were indicted, and who were rarely punished. It was proper, therefore, to ask if the blame for the existence of this evil in this city might not properly be laid at the door of the officers of the law. It went without saying, that if swift justice were meted out to these miscreants, the abortionists, they would find this city so hot for them that after a time criminal fœticide would cease to exist in this community, so far as it ever would cease to exist.

The President said Dr. Marx would relate a recent case in this city which would give the members food for thought and discussion.

A Recent Case.—DR. S. MARX then related the case reported recently in the daily papers. A reputable member of the Society had been called to see a young woman, recently a widow, at the house of a midwife. Both parties denied absolutely any form of operation. The patient had ceased to menstruate about four months before, was bleeding, and could give no cause except lifting heavy tubs. Having no other place to go under such circumstances, she had entered the house of the midwife. The doctor made an examination, found the uterus about the usual size at four months pregnancy, filled with detritus, there were symptoms of sepsis. The treatment was such as the conditions justified, but as the patient got worse another reputable physician was called, to whom the patient and midwife told the same story, denying criminal procedures. As the physicians were not in a position to remain all night with a dying woman, they advised that a hospital ambulance be called. Notwithstanding that they had complied with the law to the letter, they were taken from their offices by the police to a police court. Before dying, the woman exonerated the doctors and incriminated the midwife. The coroner listened to the story of the detectives and not that of the physicians, and demanded bail of the latter, which finally was made only nominal. The coroner's inquest showed that the abortion had been committed by the midwife, and that the action of the two physicians connected with the case was simply in line with the duties of their profession, and that they were in no way implicated in the criminal operation.

THE PRESIDENT remarked that here was an example, then, where two physicians had been arrested in the performance of their duty, and without the shadow of a reason. It was true they had been acquitted before the coroner, as might have been predicted, but the story of their arrest had been read in the papers by thousands who thereafter associated them in their minds with abortionists, while the coroner's report probably had not been read by five hundred.

Another Case.—DR. A. Y. REID related his own experience with a case of alleged criminal abortion in 1892, a full history of which may be found in the New York *Medical Journal*, April 8, 1893. The points which he emphasized were that any physician was liable to be arrested in the discharge of his duty in connection with cases of abortion, or possible abortion; that there were some men who, under their guise as officers of the law, sought in cases of this kind to incriminate reputable physicians for purposes of blackmail. The coroner in his case laughed at the idea that he would be able to get a jury of reputable physicians, and said he could himself pick out one who would bring in such a verdict as he thought fit. In Dr. Reid's former report of the case we find that the following eminent members of the profession actually served on the coroner's jury: Drs. Mundé, Dudley, Boldt, Grandin, Sims, Jacobus, Janvrin, Van Santvoord, Coe, Goffe, Peaslee, and Morrill. Besides absolutely exonerating Dr. Reid, the jury said in its verdict: "This jury desire to express their condemnation of an apparent too great readiness on the part of some persons connected with this case to incriminate, without sufficient evidence, a reputable physician, and thus subject him to the indignity of arrest and criminal prosecution."

A friend afterward heard a police captain say that Dr. Reid would thereafter have to enter the ranks of the abortionists; meaning that legitimate practice would leave him. Such was known to be the usual effect of allowing one's name to enter the newspapers in connection with cases of abortion, however innocent he might be. The result had not been as predicted in this instance; his patients had remained with him, yet there was no doubt but what his practice had suffered considerably, while the legitimate expenses connected with the case had been over $700. He had no doubt but that there were many physicians in the city who were paying blackmail to the police to be permitted to practise their profession legitimately, because some time in the past, when inexperienced, they had begun to do so to prevent their names from entering the public press in connection with some case of abortion with which they had had no criminal, but simply professional, relations.

DR. JOHN IRWIN thought it might be well to exclude

the reporters of the press on this occasion, so that members might feel freer in relating their experience. The motion was lost, no affirmative votes.

Physicians not Good Citizens.—Dr. A. Jacobi said he arose to speak, not simply as a physician, but as a citizen of the city of New York. We all knew what these things meant. These proceedings on the part of the police officers had been of the same character as that noticed in the papers two days ago, where a reputable citizen was held up by an officer in uniform and taken to a police station. The same thing might have occurred to a doctor on his way to see a patient, and he might have handed over five or ten dollars in order not to be detained or to avoid sleeping in a station. Indeed, he did not doubt but what some present had done that very act, and were now ashamed of it. We had been exposed to robbery of all kinds, and to violence as no city in Europe would permit. And we were all at fault, for we were not good citizens. We had not participated in public affairs. If we would rid ourselves of the danger of being held up in the street, and of being taken from our offices to the station-house, we must attend public meetings; must be at the primaries; must go to the polls, not in a body as physicians, but one and all as citizens. As a profession he did not think we could do anything. The common run of politicians cared not what we did so long as we had no votes. Our protest amounted to nothing except at the primaries and the ballot.

Dr. C. A. von Ramdohr mentioned three cases in which he pronounced the action of coroners or deputy coroners as officious, if indeed it was not based on inefficiency or corruption. He differed from Dr. Jacobi, and believed that the Medical Society of the County of New York could do something. He had once asked a judge of the Supreme Court what he should do in cases of the kind under discussion, and received two replies, one private, the other professional. The first was never to report a case of abortion which might come to his knowledge; the second, never to meddle with a coroner's office, nor with the office of a police justice, but to go to the office of the district attorney; it was more decent.

To Obtain Legal Opinion.—Dr. von Ramdohr then moved that the Society obtain legal opinion as to whether doctors had to report cases of abortion which came to their knowledge in the course of their professional duties, to whom must they make the report, and when.

Later this motion was adopted, after having been amended to refer the question to the Comitia Minora and the counsel of the Society.

Dr. John A. Irwin contended that it was not for the physician to report to the authorities any case of abortion. For his own part he declined to play the detective at any time whatsoever. His first and only duty was as a professional man. If called to a patient in distress he did whatever he could do to relieve her, totally ignoring the crime which might have been committed in the first instance which brought on the distress.

Dr. A. Jacobi read a few lines from Field's Medico-Legal Guide, which expressed his own opinion, and was in line with the remarks of Dr. Irwin: A person duly authorized to practise physic or surgery shall not be allowed to disclose any information which he acquired in attending the patient in professional capacity which was necessary to enable him to act in that capacity. But the patient may waive the privilege thus secured him by the State, and permit his medical adviser or attendant to disclose such information.

In Dr. Jacobi's opinion, as long as the doctor went to a case of criminal abortion his lips were sealed, and he had nothing whatsoever to do with the police unless the patient waived the privilege of secrecy.

Dr. Bruce made some remarks, and suggested that the counsel of the Society ought to defend members in cases of this character, which would be equivalent to a defence by the Society. The President replied that the services of the Society through the board of censors were at the disposal of every member who might happen to be under the charge of criminal abortion of which he was not guilty.

The Coroner's Side.—Dr. E. W. Hoeber spoke from the point of view of the coroner, he having been one elected last fall. He agreed with Dr. Jacobi that it was the fault of physicians that they were in the position of which they complained. They voted for men to fill the office of coroner who were not physicians, and who therefore could not be expected to understand so fully the needs, the rights, and the privileges of the medical profession. One speaker had mentioned deputy coroner, there were no deputy coroners, but there were coroners' physicians, and it was true they were liable to make mistakes, but so were other physicians. The doctor who said he would not report a case simply ignored and disobeyed the law. Ignorance of the law was no excuse, he would be held as an accessory if he knew of a crime and failed to report it. The patient whose case Dr. Marx had related was in the house of a midwife who had advertised in the papers for years. The doctors who were called ought to have known this, they ought to have suspected that this woman had committed a crime, and learning the fact, ought to have reported it to the authorities. If the law requiring us to report such cases was unjust, we should seek to repeal it. Practically, it was only women who died, and who died under suspicious circumstances, whose cases came before the coroner or police authorities, and because of lack of evidence it was of little avail for the physician to report a case until he saw that his patient was likely to die.

The discussion was further participated in by Drs. Tuttle, Vedin, H. S. Stark, Michaelis, and others, and a motion offered by Dr. Stark was adopted, calling for an expression of an opinion from the counsel of the Society with regard to the medico-legal position of physicians when called to cases of criminal abortion, this opinion to be printed and distributed among the members.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

INFLUENZA—FRESH EPIDEMIC IN LONDON—MORTALITY—INVASION OF THE PROVINCES—DIPHTHERIA—SMALL-POX—THE VACCINATION COMMISSION—CHELSEA HOSPITAL FOR WOMEN AGAIN—THE CORK CLUBS.

London, March 2, 1895.

We are in for influenza again. Last week though a number of cases were reported there remained some hope that we should only have a slight recrudescence of the disease. This week its rapid spread and in numerous cases its grave type make it almost certain that we are already in a severe epidemic. Pneumonia and other serious complications are found in a considerable proportion of the cases and accordingly the death-rate will probably prove high. The fact that Lord Rosebery has been prostrated by the disease has naturally drawn public attention to it, besides which a great number of public men are in the like case. It is common enough, however, to hear the attacks derided as "fashionable" or "convenient," by those who have not suffered from it. After an attack, however, it is noticeable that the patient speaks with more respect of "the flue" as it is often called, and is much more careful to avoid exposure. The Registrar-General reports one hundred and eleven deaths directly due to influenza last week (*i.e.*, in the week ending 23d ult.), and there were also many cases in which patients suffering from

other diseases were attacked and died. In the previous three weeks the deaths had been registered of sixteen, thirteen, and twenty-four patients.

The epidemic seems especially severe in the West End, but the spread of the disease is so rapid that other districts will probably not have many days of comparative immunity. The epidemic has also appeared in several provincial towns and seems likely to rapidly spread all over the country. In Edinburgh it is at its height, and in Dublin it seems to be making way. No doubt many of the deaths from respiratory diseases last week were due to the epidemic influence. The deaths from this class were more than double the average. Pneumonia and bronchitis bulk largely in the returns, and there is excessive mortality among the aged. In view of the epidemic there seems a disposition to forget the effects of the severe cold we have experienced. I cannot but think that no small share of the mortality from respiratory diseases is really due to the extreme weather, which has in other ways proved so fatal.

Diphtheria has been below the average, and in the last weeks the deaths have been twenty-nine, forty-five, thirty-four, twenty-nine, the corrected average being thirty-one. Small-pox shows a disposition to increase, particularly in Marylebone, in which parish the late outbreak occurred, but the sanitary authorities are taking vigorous measures to meet the danger.

This reminds me that the commission on vaccination still delays its report. This is now I believe the sixth year in which it has "dragged its slow length along." No wonder that explanations have been asked for in both Houses of Parliament. The reply was that the commission had practically concluded its labors and the report was in preparation. But the Lord Chancellor let out that some of the delay was caused by outbreaks of small-pox in various parts and the commission had thought it advisable to have inquiry made into them by skilled persons. Rather an extraordinary manner of fulfilling their commission to thus burden themselves with investigations for which they were not appointed. But a "poor excuse is better than none," and this is no doubt a very poor excuse for unreasonable delay. It would be if no consequence, but that the existence of the commission has increased the difficulties of local authorities in carrying out the law and encouraged the ravings of the anti-vaccination faddists.

The managers of the Chelsea Hospital for Women have filled up their cup pretty full. The post of anæsthetist was not filled up when the rest of the new staff were appointed, but lately the Board advertised it, and declared a general practitioner ineligible, apparently merely to exclude the officer who had served them for three and a half years without accident or complaint.

Mr. Bland Sutton has accepted the office of surgeon. I feel sorry for this, as I think men of his standing should have refused office under a Board which has behaved so badly to the profession.

The Cork clubs have imported some surgeons, but do not seem very satisfied with the result. It is to be regretted that any young, impecunious man should be tempted to step into such positions. But what is to be expected? Has it not always been so even in important appointments? Whoever heard of men resigning and no one being ready to supplant them? Only this week I heard of an occurrence which shows the estimate Boards have been allowed to form of medical officers. The chairman of a certain Board opposed a request of the staff, and when it was hinted that the staff might resign if refused, he said, "Let the staff resign; there are plenty of doctors would be ready to take their places." That is the fact, and until the profession hold together their services will never be appreciated properly. All honor to the Cork doctors who have stood shoulder to shoulder. Their would-be supplanters should be ostracized professionally and socially.

APPENDICEAL ABSCESS IN THE FEMALE SIMULATING INTRA-PERITONEAL OR TRUE PELVIC ABSCESS.

To the Editor of the Medical Record.

Sir: The interest which the case of premature delivery of a dead child caused by acute appendicitis reported by me in the Medical Record for December 1, 1894, has excited, induces me to ask you to again grant me a small amount of your valuable space for the purpose of relating two cases of unusual interest in the same line. One of these cases I forgot to report in the article mentioned; the other I have seen since that article was published.

In October, 1890, Dr. F. A. Utter brought to my office a girl fourteen years of age, with the following history: First menstruated at twelve, fairly regular since, last menstruation three weeks ago; about eight weeks ago had a fall on the right hip, since then pain in right iliac region; since three weeks a more or less constant offensive discharge from the vagina. No record of temperature. Examination showed the hymeneal opening dilated by a soft, fluctuating tumor, pressure upon which caused a discharge of offensive pus. This tumor extended up into the vagina on the right side and on bimanual examination was found to reach up into the right iliac fossa. A small opening was discovered on the right side of the vagina from which the pus oozed on pressure. A sound passed into the cavity reached as high as the crest of the ilium. Remembering the three cases of a similar nature which I had seen (and which are mentioned in the article referred to) and judging mostly from the localization of the abscess on the right side and from the peculiarly fetid character of the discharge, I pronounced the case to be one of perityphlitic abscess, which had worked its way down on the right side of the pelvis, dissecting up the peritoneum and the vaginal wall until it presented at the vulva. Two days later, at the patient's residence, I enlarged the opening, thoroughly irrigated the cavity, inserted a drainage-tube, and in due time under Dr. Utter's care the patient recovered.

Two weeks ago (February 28th) I was called late in the evening by Dr. Alfred R. Crain to see an unmarried lady who for about two weeks had been ill with what he considered to be pelvic peritonitis. Her temperature had varied between normal and 104° F., the latter being the record when he came for me. Bowels more or less constipated. She had been in considerable pain, requiring frequent doses of morphine, under the influence of which I found her. The abdomen was somewhat distended, and there was dulness extending two-thirds up to the umbilicus in the suprapubic and left iliac region; only slight dulness on the right side. The vaginal canal was almost completely closed by a doughy swelling between rectum and vagina. The nurse having called my attention to a slight, very offensive discharge on the pad which she had just removed, I decided that there must be an abscess in the pelvis, apparently already slightly open, and that it was essential to ascertain where it could be reached and the pus evacuated. As I could with difficulty make a vaginal examination, I inserted my finger into the rectum and at once found a soft, fluctuating spot in the recto-vaginal septum. Pressing my finger against this spot, to my surprise the septum broke and my finger passed into a large cavity, from which a torrent of intensely fetid pus poured over my hand and arm, the amount of which pus can hardly have been less than a quart. The patient at once expressed great relief. On exploring the sexual organs through this cavity I found them to be healthy. The correct diagnosis at once flashed upon me. I then irrigated the cavity thoroughly with a 1 to 10,000 bichloride solution, and advised Dr. Crain to insert a drainage-tube on the next morning, there being none procurable at that time of night. This he afterward informed me that he did, using two tubes. The discharge gradually

ceased, the temperature at once became normal, and the patient made a rapid recovery.

Although the abdominal dulness and swelling were on the left side when I saw the patient, I am confident from the history, and especially from the point of rupture into the rectum and the excessive fetor of the discharge, that this also was a case of retro-peritoneal perityphlitic abscess, similar to the four other cases seen by me. That the uterine appendages were healthy in this last case, I have already mentioned.

To recapitulate: I have seen five cases of appendiceal or perityphlitic abscess, four in the female sex, which developed extra-peritoneally, dissected up the peritoneum and opened into the bowel, three spontaneously, the fourth on pressure by my finger, the pus being discharged per rectum, and rapid recovery ensuing. In the fifth case, the first of the series, the abscess pointed in the median line between umbilicus and pubes, and was there opened by me. In two of the cases the abdominal tumor was on the right side when I saw the patient, in one on the left side, in two in the median line, one of these being a boy, aged fourteen, whom I saw twenty years ago when I still took general practice. The location of the abdominal swelling, therefore, is not a sure criterion that the abscess may not have started in the right iliac fossa and be perityphlitic in its origin. I think that both anatomically and clinically we should distinguish between perityphlitic abscesses which point away both from the anterior abdominal wall and the visceral peritoneum, and show a tendency to burrow behind the peritoneum, whether downward or upward, and those which pursue the usual direction. Surgically, of course, such a distinction can scarcely be made, since it is our object to evacuate the pus as soon as suspected or located, and to remove the appendix when it can be found. And this is the rule and practice in all cases where the abscess remains stationary at its starting-point in the iliac fossa. It is these rare exceptions, of which I have been so fortunate as to witness five instances, which rob the surgeon of his opportunity to do a brilliant operation, and offer nature the occasion to effect the spontaneous cure of a condition which, if the rupture happened to take place into the peritoneal cavity instead of into the intestine, would speedily and almost inevitably prove fatal. Unfortunately, no man can foresee in a case of appendiceal abscess where the rupture will take place, and we cannot risk waiting for the fortunate accident which cured the patient in the cases I have related. Hence, the lesson to be learned from these cases is more one of diagnosis than of practical therapeutics. The old surgical rule to evacuate pus whenever and wherever it is found by the nearest practicable route, still applies with equal force in appendicitis, whether it occurs in the male or the female.

[On March 17th I operated on a case of acute appendicitis during the fifth month of pregnancy, which had been sent to Mount Sinai Hospital by Dr. R. Abrahams, with the probable diagnosis of appendicitis. The patient's illness dated back five days before admission, the symptoms being severe pain in the right iliac region, and a temperature running up to 102° F. On the day of admission temperature and pulse were normal. There had been constipation for six days, but after laxatives given in the hospital there were several free movements. On the day after admission, however, the temperature increased to 102.8° F.; pulse to 120; pain in right iliac region intense; general tympanites. Examination under chloroform revealed distinct dulness and an obscure tumor in the right iliac region. Immediate operation was decided on, and the result proved the correctness of the indication. A large amount of intensely fetid pus was evacuated from a cavity which was partly closed by adhesions of the intestine. The appendix was not found, nor sought for with great care, as it was thought best not to disturb the adhesions. The cavity was packed with iodoform gauze. Result as yet undecided, but prognosis not very favorable on account of probable infection of general peritoneal cavity.]

PAUL F. MUNDÉ, M.D.

20 WEST FORTY-FIFTH STREET, March 9, 1895.

CONSERVATIVE VIEWS OF ANTITOXIN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of December 29, 1894, in an editorial comment on diphtheria antitoxin, you very properly take the stand of a conservative observer, open to conviction, indeed desirous of being convinced, but demanding more facts in evidence. Without doubt, your position expresses the views of the profession at large on this subject. There is an observation among Chicago Board of Trade men, which in the light of recent history expresses the feeling of many medical men. They say on 'Change, "Because a man says he knows a thing is no reason he does know it." This is just the point. Do the antitoxin advocates know what they are talking about, or is a laudable desire making them *post hoc*, not *propter hoc*, observers? Two years ago, all the world, professional and lay, was electrified by the news from Berlin. Koch's "Ich habe es gefunden" for the time became an epochal sentence, everybody got to know all about the tubercle bacillus, and through the efforts of an energetic daily press the laity, and some considerable portion of the profession, came to believe that this special animal had been "knocked higher than Gilroy's kite." The profession is not done yet explaining to an intelligent laity how it got so badly taken in on this subject.

There are certain clinical conclusions with reference to epidemic diphtheria which very much incline practitioners to the editor's conservative demand for more facts in evidence. Some of these conclusions are: That the virulence of a diphtheria epidemic is much greater some years than others, and during some periods of the same epidemic than others; that certain subjects of a strumous diathesis, fair skin, light hair, and blue eyes, fall quickly to the disease; that in rural districts the disease has been observed to be septenary, increasing in intensity from the first to the third year, but comparatively easily controlled at its height, the fourth and fifth or third and fourth years, and declining to types easily managed by any logical treatment from that period to the seventh year.

The statistics which Dr. Roeth gives in the MEDICAL RECORD of March 9th, and which he gathered from personal service on the staff of Dr. Chaillon, in the Hôpital des Enfants Malades, Paris, are of great interest, as are those, this year, of a number of competent observers; but they do not justify the doctor's conclusion, viz., "that a clinical experience showing a decrease to eight per cent. mortality—and this is placing it high—in Dr. Chaillon's wards, is itself a sufficient defence of serum-therapy as applied to diphtheria." Much that enters into the question is: how virulent is the attack, and is it late, early, or at the height of the epidemic that this year's diphtheria statistics are taken?

Aronson, at the Buda-Pesth Congress, announced his mortality at fourteen per cent. in 192 cases. Roux, previous to this, had announced seventy-five per cent. of recoveries; these, with the reports of Dr. Roeth, from Dr. Chaillon's clinic, and that of Dr. Katz's results, noted on page 375, of Vol. 46, of the MEDICAL RECORD, are certainly remarkable, and hopeful to the conservative professional man, if only time will sustain them. Meanwhile we must wait and hope, and while we are doing both there is some diphtheria history it is well not to lose sight of in our enthusiasm, and that is, that the best results of serum-therapy have been equalled and even excelled by other lines of treatment. Aronson's statistics were equalled in the results obtained by the staff in charge, during the epidemic of diphtheria

at the Ohio Soldiers and Sailors' Orphans' Home, at Xenia, O., September, 1889, to April, 1890. The death-rate was fourteen per cent. out of 242 cases. The institution contained during this time nine hundred and thirteen children and one hundred and fifty employees, all housed on five acres of ground. No hospital facilities, with scarlet fever—234 cases—and la grippe—40 cases—running their course at the same time, the treatment developed then has given those who have used it in private practice a mortality of less than ten per cent.

Dr. T. C. Minor, of Cincinnati, in an editorial in the *Lancet-Clinic*, makes some observations which will bear much thought. He says: "Medical statistics should never be too hastily accepted; what do the advocates of Roux think, for instance, of the statistics of Lescure, physician to the Oran Hospital, who cured all his 51 cases of diphtheria with a forty per cent. solution of chromic acid? How about Goubeau, who reported 21 cases of diphtheria cured by corrosive sublimate and glycerine? How about Flatraut, who cured 15 cases with petroleum? A late Paris medical journal publishes a total of 427 cases and only 37 deaths, giving a mortality of a little over eight per cent.; these cases were not subjected to the serum therapy of Dr. Roux." These last statistics would seem to the writer to evidence a mild type of the disease in Paris, at the time they were compiled, a condition likely to give too high an estimate of the value of the line of treatment used at the time. Dr. Minor further observes that "not a single one of Roux's cases but was treated by local application of Labarraque's solution to the throat." A pertinent and permissible query is, Why? The editor of the MEDICAL RECORD has seen too many idols demolished in the past to permit the enthusiasm of hope to take the place of that of fact, and while he is open to conviction, as we all are, he still, in his editorial, expresses the views of a great, even if silent, majority of the medical profession in this country.

WILLIAM A. GALLOWAY, M.D.

XENIA, O.

ON THE PROPER METHOD OF ASCERTAINING THE CHEST EXPANSION BY MEASUREMENT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In my recent paper on "The Influence of the Bicycle in Health and in Disease"[1] I made the statement that the normal chest expansion of the average man is one inch, except in those cases in which the respiratory apparatus has been developed by some special form of exercise. This statement has called forth many letters of protest. I am aware that the results of my investigations are totally at variance with the established opinions relative to the chest expansion of man, but this variance consists solely in the manner in which the measurements are made. Insurance companies and some other corporate and incorporate bodies usually, and in some cases invariably, carefully test the chest expansion of those who propose to join them. Statistics have been compiled from thousands of these measurements and deductions have been published which, when based upon the usual method of measurement, cannot be anything but erroneous.

It is quite unnecessary for me to explain the usefulness of obtaining and preserving accurate records of the chest expansion of thousands of people, both adults and children, and of observing the deviations from the normal standard in certain diseases of the respiratory organs, or of the nerves of those organs or their centres in the cerebro-spinal system. This is admitted, but unless the records express the actual chest expansion, and nothing more than this, they are absolutely useless for any scientific purpose. I may safely venture the opinion that there are very few chest-expansion measurements made by insurance examiners or by the examiners of school-children that even approximately express the truth. The only part of the chest expansion which is of any practical importance is determined by the volume of air which an individual can draw into the lungs in excess of the natural inspiration. The amount of air which is inhaled while the body is at rest is a trivial matter generally, but it is a subject of great importance to know that the lungs should be capable, during vigorous and prolonged physical exercise, of performing their functions in a satisfactory manner. Whether they can do this or not depends, in a great measure, upon the inspiratory capacity of the lungs, and can be relatively determined by measuring the girth of the chest during normal respiration, and then noting the increase of girth when the lungs are filled from this point to their utmost capacity. The usual method of measuring the chest is to permit the person measured to exhale all the air he possibly can and then to increase the girth of his chest by every method at his disposal. But can anyone really believe that the measurements obtained in this way are true expressions of the actual chest expansion? They certainly have no scientific value, because they are not founded upon the truth. They do not even accurately express, relatively, of course, the total capacity of the lungs. A measurement obtained in this manner may conveniently be separated into three parts for the purpose of analysis: 1. The increase in the girth from the point of greatest contraction of the chest (forced expiration) to the normal breathing-point. 2. The increase in the girth from the point of normal breathing to the point of greatest capacity (forced inspiration). 3. The increase of girth from voluntary contraction of the scapular, pectoral, and abdominal muscles. This latter means of increasing the girth of the chest is, I am convinced, greatly underestimated. I have seen many individuals who could, after inflating their chests to the utmost, increase the girth from two to three inches more solely by muscular contractions. This method of increasing the girth of the chest should be carefully guarded against. It is not always a simple matter to do this. Almost every individual is more than anxious to show to what a great extent he can expand his chest, and even when requested not to unconsciously brings muscular contractions in to assist in accomplishing this object. But these muscular contractions, while they increase the girth of the chest, do not in the least degree increase the capacity of the lungs to contain more air. Hence any chest measurement in which the expansion due to inflation is augmented in any way by voluntary muscular contractions is erroneous and of no value whatever.

Taking the measurement of the chest expansion from the point of greatest chest contraction, that is, when the individual has expelled all the air he can from his lungs and has further contracted his chest by muscular effort, is also an element of great error. The measurement from this point up to the point of greatest inflation may, perhaps, indicate approximately, if the quantity of air inhaled was measured, the total capacity of the lungs. But this is a matter of little importance. The question to be considered is what is the lung capacity of the individual beyond his normal requirements? The expansion of a forcibly contracted chest up to its normal condition is not, in the true sense of the word, expansion at all. Expansion begins when an individual, at repose and breathing naturally, begins to inspire air, and it reaches its maximum when no more air can be inhaled. The measurement, therefore, of the increase of girth of the chest from the point of greatest possible contraction up to the point of normal girth has nothing whatever to do with the measurement of the chest expansion, and must be, together with the increase from muscular effort, absolutely excluded. Leaving out these two elements of great error, the normal chest expansion can be ascertained by

[1] MEDICAL RECORD, February 2, 1895.

finding the difference between the girth of the chest during normal respiration and the girth of the chest at the moment of the greatest possible forced inspiration. And any measurement which includes anything else than this is certainly inaccurate.

In measuring an individual, see that the muscles of his shoulders and thorax are relaxed. If at the end of the forced inspiration there is a sudden protrusion of the chest, call his attention to it; tell him not to do it again; and repeat the measurements until you are satisfied that the measurements of muscular contractions are positively excluded. If this is properly executed, the chest expansion of the average man will be found to be one inch.

In arriving at this average, I had the measurements of over two hundred different men placed at my disposal by Physical Director E. J. Giannini, of the New York Athletic Club. The chest measurements in these cases were taken in the manner advocated in this paper. I also measured, independently, over one hundred different men. The average expansion, with the measurements taken in the usual manner, was over four inches, but when taken properly, an expansion much over an inch was rarely seen, unless the individual had developed his respiratory powers by some special form of exercise.

GRÆME M. HAMMOND, M.D.

OBSCENE LITERATURE AND THE PATENT MEDICINE TRADE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Dr. Jacobi's letter in the MEDICAL RECORD of March 2d made you an easy convert to the propriety of the bill he favors. Presuming that the MEDICAL RECORD and other medical journals have subscribers among non-medical libraries and non-medical men (lawyers or teachers, for instance), it is possible that such a law might entail a good deal of inconvenience upon medical publishers. Perhaps they would be willing to put up with that, however, if Dr. Jacobi's object could be secured by his bill. This is questionable. I am credibly informed that already half a dozen of the most active and pushing patent-medicine concerns that send out circulars concerning sexual diseases enclose all their matter in sealed envelopes, and have done so for a year or more. So, in spite of Dr. Jacobi's bill, the Turkish wafer advertisements might fall into the hands of fifteen-year-old boys. Would it make any difference to the parent of the boy or Dr. Jacobi's feelings in the matter whether the circular is sent sealed or unsealed? The letter of Dr. Charles E. Nammack in the same number of the RECORD presents another aspect of this matter. He speaks of the corrupt influences at work and the unnatural sexual practices sapping the vitals of youth. It is a fair question whether the objectionable circulars referred to would not have far more effect in the way of frightening the youth of the land against bad practices than encouraging them. But further, another and far different class of literature has now come in the field for the direct purpose of wisely warning young folks. They are tracts or pamphlets prepared by physicians and others for the social purity department of the Women's Christian Temperance Union. Perhaps some of them might be found hardly proper for general and indiscriminate circulation. Again, how would Professor Burt Wilder's book, "What Young Folks Ought to Know," fare under that bill, and several other worthy books of the same kind? In proposing any new legislation it is always well to carefully consider whether the probable benefits will outweigh the possible evils. Dr. Jacobi's bill could not accomplish his purpose, while it might be a hindrance or unfair tax on some useful efforts.

WM. M. MCLAURY, M.D.

244 WEST FORTY-SECOND STREET.

New Instruments.

A NEW METHOD OF CIRCUMCISION.

BY PERRY A. MCINTOSH, M.D.,

THOMASVILLE, GA.

RECOGNIZING the difficulties in the determination of the amount of tissue to be removed, the uncertainty as to the extent of stretching of the mucous membrane and of the relaxation of the preputial skin, the difficulty of obtaining an even and smooth coaptation of the tissues, and in order to settle the question in the selection of general or local anæsthesia in all operations for phimosis that have come into use, I have been led to devise an operation which overcomes these difficulties and settles the question in favor of local anæsthesia.

The objects of this operation are to promote cleanliness, to cure or prevent disease, and in certain cases to facilitate conjugal relationship. To meet these requirements a prepuce should only cover the corona when the organ is relaxed, and during erection should retract so as to leave no fold above it.

The instruments and material required for this operation are: 1 scalpel, 1 gutta-percha tube (Fig. 1), 2 braided silk cords (No. 8), ten inches long, 1 fine curved suture needle with silk. The tube is a cylindrical barrel, open at both ends, made of vulcanized rubber or gutta-percha, and is of the following dimensions: Length, 5.1 ctm. (2 inches); diameter, from 12.7 mm. (½ inch) to 3.18 ctm. (1¼ inch), according to the capacity of the prepuce and size of the glans. Thickness of walls, 1.6 mm. (1/16 inch). One groove encircles it 3.2 mm. (⅛ inch) distant from one end, and another groove 9.5 mm. (⅜ inch) distant from the other. The width and depth of the grooves are about 0.8 mm. (1/32 inch).

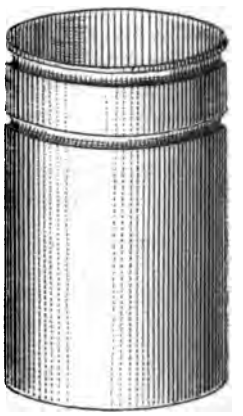


FIG. 1.

The mode of operation is to select a tube suitable to the size of the glans and the capacity of the prepuce. The prepuce is retracted, and the tube is placed over

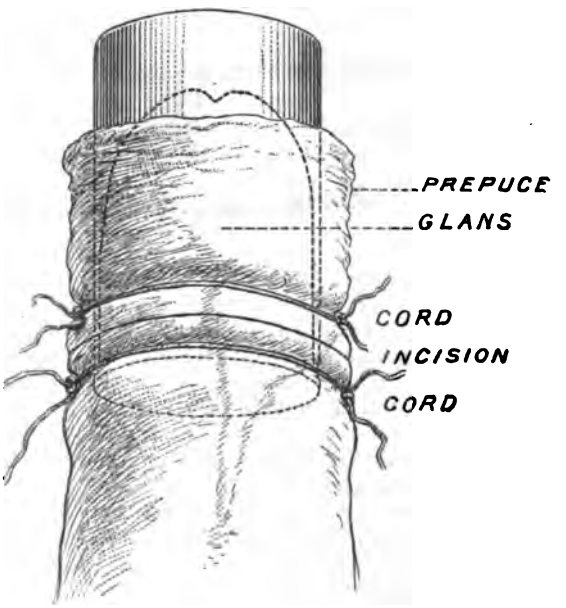


FIG. 2.

the glans and pressed into place till the latter is covered. The end of the tube to be put over the glans is the one with the grooves around it. The prepuce is then allowed to roll down over the tube, assuming its natural

relations to the glans. It should fit about as a glove fits the finger. A cord is carefully tied around the penis over each of the grooves in the tube, so that in tightening them the tissues will be pressed firmly into the grooves.

The tissue between the cords is then cocainized. With the end of the penis held in the left hand a sweep with a bistoury midway between the cords around the penis and down upon the tube is made so as to divide the prepuce. The severed prepuce and the cord which encloses it are removed from the tube. The continuous suture is then made with the cord and tube still remaining *in situ*, the needle entering the cutaneous end coming out through the mucous coat, the tube serving as a stay or guide for the introduction of the stitches. The cord and tube are removed and the wound dressed in the usual manner.

Fig. 2 shows tube in place, cords tied, and line of incision. The advantages of this operation were hinted at in the commencement, and it is not necessary to elaborate them here. There are cases not amenable to this form of operation, such as contracted prepuces which cannot be sufficiently dilated to be placed over the tube.

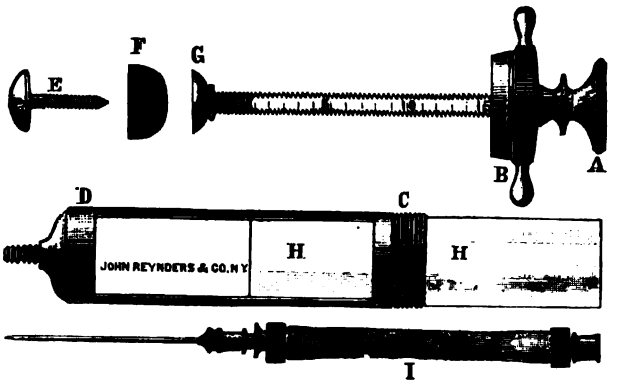
Cocaine, the use of which renders the operation perfectly painless, can always be employed without fear of systematic absorption or local evil effects to the tissue on account of the very small quantity needed to anæsthetize the parts, as the cord partially obtunds the sensibility and prevents absorption.

132 Broad Street.

SOMETHING NEW IN ANTITOXIN AND HYPODERMIC SYRINGES.

Our attention has been called to a syringe wherein the feature of an adjustable piston has at last been solved in an apparently satisfactory manner. Besides this every part of the syringe is detachable and can be put together by anyone not a mechanic.

In the accompanying figure F illustrates the piston,



which consists of a moulded piece of rubber. Its mode of attachment to the piston-rod is readily understood from the parts E, F, G of the illustration. The part D contains a transverse piece, into which the cut-in screw E will catch, when the piston within the syringe is pushed fully forward, and in this position, by turning the piston-rod one way or the other, the rubber piston F will increase or decrease in circumference, so as to fit properly in the barrel H.

The case holding the syringe contains six extra pistons, F, and in less than a minute anyone can insert a new piston when necessary, or when out of them any number can be procured from the makers. This new feature will dispense with the annoyance of having to send syringes away for repair of pistons. The case contains also an extra glass cylinder, which still more readily than the piston can be inserted, and a supply of duplicate cylinders can be had at any time. The illustration is to show an antitoxin syringe of 20 c.c. capacity, but syringes for hypodermic use upon the same principle are also made.

These syringes are manufactured by John Reynders & Co., of this city.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 16, 1895.

	Cases.	Deaths.
Tuberculosis	76	127
Typhoid fever	9	3
Scarlet fever	123	13
Cerebro-spinal meningitis	4	5
Measles	152	18
Diphtheria	201	27

Bacteriological Diagnosis of Diphtheria.—The following are the conclusions concerning the bacteriological diagnosis of diphtheria based on the recent investigations made by Drs. Hermann Biggs, W. H. Park, and Alfred L. Beebe under the direction of the Health Department of the City of New York and officially reported to that body :

"1. All inflammation of the mucous membrane due to the diphtheria bacillus of Loeffler should be included under the name 'diphtheria,' and in this report they have been so included. An acute hyperæmia of the mucous membrane caused by the Loeffler bacilli is considered as truly diphtheria as an inflammation with pseudo-membrane or exudate, and a case in which the lesions are confined to the larynx or bronchi as truly diphtheria as one in which the tonsils and pharynx are involved.

"2. Under pseudo-diphtheria should be included all inflammations of the mucous membranes which simulate true diphtheria and which are due to streptococci, or, more rarely, other cocci.

"3. The name croup or membranous croup should be regarded as a term merely indicating that the location of the pseudo-membranous or exudative lesion is in the larynx, and not as describing the nature of the disease, whether diphtheritic or pseudo-diphtheritic. In New York City at the present time, eighty per cent. of the cases of 'croup' are diphtheria.

"4. The examination of cultures made upon solidified blood-serum under the conditions insisted on by the Department form a reliable method of determining whether the diphtheria bacillus is present or absent in a throat. For diagnostic purposes, cultures should be made before the pseudo-membrane or exudate begins to disappear.

"5. Virulent diphtheria bacilli were apparently in about one per cent. of the healthy throats in New York City at the time of these examinations. Diphtheria, however, was rather prevalent in the city at this time. Most of the persons in whose throats they exist have been in direct contact with cases of diphtheria. Very many of those whose throats contain the virulent bacilli never develop diphtheria. We must therefore conclude that the members of a household in which a case of diphtheria exists should be regarded as sources of danger, unless cultures from their throats show the absence of diphtheria bacilli.

"6. The bacilli found in the original serum cultures, which in appearance and staining are identical with the typical Loeffler diphtheria bacillus, may be regarded, for diagnostic purposes, as virulent diphtheria bacilli, if the cultures have been made either from throats

containing exudate or from those of persons who have been in contact with true diphtheria, for investigation has shown that over ninety-five per cent. of such bacilli are virulent.

"7. All bacilli which are identical with the virulent Loeffler diphtheria bacillus, morphologically, biologically, and in staining by reagents, should be classed with the diphtheria bacilli, whether they have much, little, or no virulence when tested in guinea-pigs. Bacilli which have entirely lost their virulence rarely, if ever, regain it. They probably are incapable of causing diphtheria, for the twenty-four cases in which they were found by us never developed any lesions, nor were they the origin of any case of diphtheria, so far as could be ascertained.

"8. The name pseudo-diphtheria bacillus should be regarded as applying to those bacilli found in the throat which, though resembling the diphtheria bacilli in many respects, yet differ constantly from them. These bacilli are rather short and are more uniform in size and shape than the Loeffler bacillus. They stain, as a rule, equally throughout with the alkaline methyl blue solution and produce alkali in their growth in bouillon. They are found in about one per cent. of the healthy throats in New York City, and seem to have no connection with diphtheria. They are never virulent.

"9. One or more varieties, both of streptococci and other forms of cocci, exist in the great majority, and possibly in all, of the healthy throats in New York City. Cultures from the throats in cases of pseudo-diphtheria contain more cocci, especially more streptococci, than those from healthy throats, but otherwise do not seem to differ.

"10. The investigations of the Health Department have given striking evidence of the marked difference in mortality between true and pseudo-diphtheria, for while it was twenty-seven per cent. in diphtheria, it was under two per cent. in pseudo-diphtheria.

"11. The combined clinical and bacteriological investigation of over five thousand cases has demonstrated clearly the fact that many of the less characteristic cases of diphtheria and pseudo-diphtheria are so similar in appearance, symptoms, and duration that it is impossible to separate them, except by bacteriological examinations. In the more severe cases and after the disease has fully developed, cultures are less necessary, although their systematic use is desirable.

"12. Persons who have suffered from diphtheria should be kept isolated until cultures prove the bacilli have disappeared from the throat, for not only are the bacilli which persist in the throat virulent, but they are not infrequently the cause of diphtheria in others. Where cultures cannot be made, isolation should be continued for at least three weeks after the disappearance of the membrane, for our experience has shown that it is not unusual for the bacilli to persist this length of time.

"13. In pharyngeal cases in which thorough irrigation of the nostrils and throat with 1 to 4,000 bichloride of mercury solution has been practised every few hours, the bacilli have not remained in the throat for as long a time after the complete disappearance of the pseudo-membrane as when no antiseptic has been employed. Other cleansing and antiseptic solutions are also useful.

"14. Inflammations of the mucous membranes due to streptococci, either alone or associated with other cocci, are usually mild in character. These inflammations may be more serious when the lesions are located in the larynx, or when they are complicated by scarlet fever or measles.

"15. While the streptococci and perhaps other forms of cocci may be considered as the primary etiological factor in pseudo-diphtheria, yet, in the majority of cases at least, certain predisposing factors, such as exposure to cold or other deleterious influences or the presence of certain infectious diseases, appear to be of great importance in determining the occurrence of the disease.

"The streptococci which under these conditions apparently cause the disease are probably those which had for a long time existed in the throat, and not those freshly derived through communication with other cases of pseudo-diphtheria. In a small number of cases, indeed, the histories suggest a direct communication, but the causation may be equally well explained by the supposition that the second case shared with the original one the same predisposing cause.

"16. The slight mortality and the usual mildness of the cases of pseudo-diphtheria do not warrant us in enforcing isolation, even if further investigation produced positive proof that this disease is directly communicable.

"With the results of these investigations before us, we can appreciate the difficulty of exterminating diphtheria from a city like New York. On the one hand, we have cases of diphtheria scattered all through the city, many of which are so mild as to be unrecognized, and, on the other hand, we have the crowded tenements with their ignorant and shifting population, where proper isolation of the patient from other members of the family, or of the family from other inmates of the building, is usually impossible unless harsher measures are adopted than are now customary. With stricter isolation of patients and intelligent and systematic supervision of the schools and tenements, we can certainly reduce the number of cases of diphtheria in the city, but the total extermination of the disease under the existing conditions of life here does not seem probable unless we can acquire new means to combat the disease."

Billroth on an International Language.—In a letter written shortly before his death to Dr. Jankau, Professor Billroth expressed himself as follows upon the choice of an international language: "I would recommend the most simple of the Romance languages, that is Spanish, as a common speech for the learned; after that would come Italian and French, and among the Germanic tongues, English only. The latter would be by far the most suitable of all, for it is also one of the simplest. But as the Latin races are so absolutely without the talent for learning foreign languages it is necessary, because of their other great attainments in the line of culture and science, to make a concession to them in this regard, and select a Romance tongue as the international language."

The Rome Congress.—The first volume of the Transactions of the International Medical Congress held in Rome a year ago is now ready for distribution by the firm of Rosenberg & Sellier, of Turin. The members do not receive it free as they did in former Congresses, but are called upon to pay twenty-five cents postage on each volume in advance, otherwise they are informed they will not get the Transactions.

Students in German Universities.—The total number of students in the German universities is 28,158, as compared with 27,646 a year ago. Berlin comes first with 5,031, then follow Munich, 3,475; Leipzig, 2,928; Halle, 1,539; Bonn, 1,518. Würzburg has 1,347; Tübingen, 1,165; Heidelberg, 1,028; Strasburg, 949; Göttingen, 894; Jena, 635; and Rostock, the smallest number, 420. Of the total, 26,008 are Germans, 1,594 from the rest of Europe, and 556 from other parts of the world. Theology claims 4,484; law, 7,432; medicine, 7,768, and philosophy and science, 8,470.

The Physique of the British Soldier.—Physical deterioration has been increasing steadily in the British army in the last twenty years. In 1875 there were only sixty-five soldiers in a thousand under five foot five; last year there were one hundred and twenty-seven. The six hundred and eight in a thousand measuring less than thirty-seven inches round the chest has grown

to six hundred and eighty-five. The proportion of enlisted men under twenty years of age has increased from ninety-seven in a thousand to one hundred and seventy, while that of men over thirty has decreased from three hundred and forty to eighty-eight in a thousand.

Dr. Winslow's Treatment of Homicidal Mania.—Apropos of a number of cases of apparently causeless stabbing in the streets of London, Dr. Forbes Winslow, in a letter to one of the newspapers, made the following recommendation: "In the case of a person who kills another in the street without motive, a certain congestion of the brain and rush of blood take place. If any one were to hit him on the nose, a blow which would cause the loss of blood, it would afford instant relief and he would no longer be actuated by the impulse to murder. These ordinary homicidal lunatics, who are sane on the surface, are the most difficult to deal with. You may talk to them for four hours and they will appear perfectly rational. Yet they will suddenly go out and attempt to kill the first person they meet. The typical homicidal lunatic, unlike the man who is afflicted with a desire to commit suicide, is incurable." He adds that the number of homicidal lunatics at large in London is greater than usual and that he is frequently visited by madmen who are unaccompanied, some of whom want to kill him, others ask to be prevented from killing others.

The Criminal's Eyes.—A law journal published in Russia gives some interesting data collected at the eighteen anthropometric stations in the empire. One of the curious things brought to light is that in Russia each group of criminals has its own particular color of the eye. Thieves and murderers, it seems, possess "chestnut-brown" eyes. Robbers—that is to say, thieves in a large and violent line of business—have slate-colored eyes, and the same is stated of criminals convicted of swindling. The vagabond classes, among whom are probably reckoned the passportless class, have eyes of an azure blue tint. The color most observed among minor criminals and those convicted of slight offences is "chestnut brown-green."

The Chemistry of Cleanliness.—*Nature* publishes an article that proves the virtues of cleanliness to be more than æsthetic. The sudoriferous glands perform the important function of throwing off the moisture produced during the combustion of waste tissue by the oxygen of the blood, and secrete about twenty-three ounces of perspiration in twenty-four hours. This evaporates without producing any sensible moisture of the skin; and is a process for regulating the temperature of the body. The conversion of perspiration into vapor renders latent an enormous amount of heat and keeps the body in a state of comparative coolness. Water at 120° is almost unbearable; but heat in an oven to the extent of 325° may be borne for a time. In the twenty-three ounces of perspiration secreted daily there is about one ounce of animal matter. This is left behind on evaporation. Sebaceous glands also secrete oily and resinous substances. This, mixing with the solid matter and dirt, forms a compound which tends to clog the pores of the skin. The removal of this compound is largely the source of the feeling of refreshment and *bien aise* following a vigorous morning bath.

The Tientsin Red Cross Society's Expedition to Port Arthur.—When the news of the fall of Port Arthur reached Tientsin on November 24th, Dr. B. C. Atterbury and Mr. C. D. Tenney, acting for the Tientsin Red Cross Society, proposed to the Viceroy, Li Hung Chang, that a steamer should be sent to Port Arthur under the auspices of the Society, in order to offer to render assistance to the Japanese Field Hospital Staff in tending the wounded, and, if permitted to do so, to bring a number of the Chinese wounded to Tientsin for treatment. The Viceroy responded most cordially to this suggestion, and placed the Chinese steamer Toonan at the disposal of the Society. The Toonan arrived at Port Arthur at daylight, November 28th. Two Japanese war-vessels were anchored outside the port, the Omi Kan and the Hi-yei Kan. The Toonan approached flying the Red Cross flag and the flag of truce at the fore-mast. The Omi Kan signalled the Toonan to come to anchor, and soon after sent a crew of marines and two lieutenants on board. The object of the expedition was explained to the two officers, and it was arranged that the Toonan should follow the Hi-yei to Ta-lien-wan, to lay the case before the Admiral, who was then at that place. Unfortunately the hoisting-gear broke after a few turns, so that the anchor could not be raised except by tackle; and, as a gale of wind was blowing, it would have taken several hours to have raised it. The Toonan accordingly remained at anchor under the forts at Port Arthur for two days, at the end of which time the commander-in-chief of the Japanese forces sent word that the wounded were prisoners and could not be carried to Tientsin, and that the Japanese surgeons were able to attend to all, Japanese and Chinese alike. So the members of the Red Cross returned with the thanks of both sides for their good intentions, which the rules of war forbade their carrying out.

The English and the American Poets of Hospital Scenes.—Tennyson's description of a scene in a hospital is often quoted because of its poetry, its unpleasantness, and the nasty hit he gives to Dr. Fagge. An American poet, Walter Whitman, has described a hospital scene with superb power and with no personalities. In comparison, Tennyson's work is as the flutter of the bird to the majestic roll of the sea. Read it and believe:

Our army foiled with loss severe, and the sullen remnant retreating
Till after midnight glimmer upon us the lights of a dim-lighted building,
We come to an open space in the woods, and halt by the dim-lighted building.
'Tis a large old church at the crossing roads, now an impromptu hospital.
Entering but for a minute I see a sight beyond all the pictures and poems ever made,
Shadows of deepest, deepest black, just lit by moving candles and lamps,
And by one great pitchy torch stationary with wild red flame and clouds of smoke;
By these, crowds, groups of forms vaguely I see on the floor, some in the pews laid down.
At my feet more distinctly a soldier, a mere lad, in danger of bleeding to death (he is shot in the abdomen).
I stanch the blood temporarily (the youngster's face is white as a lily).
Then, before I depart, I sweep my eyes o'er the scene, fain to absorb it all.
Faces, varieties, postures beyond description, most in obscurity, some of them dead;
Surgeons operating, attendants holding lights, the smell of ether, the odor of blood,
The crowd, oh, the crowd of the bloody forms, the yard outside also filled,
Some on the bare ground, some on planks or stretchers, some in the death spasm sweating,
An occasional scream or cry, the doctor's shouted orders or calls,
The glisten of the steel instruments catching the glint of the torches.
These I resume as a chant. I see again the forms, I smell the odor,
Then hear outside the orders given, "Fall in, my men, fall in!"
But first I bend to the dying lad, his eyes open, a half smile gives he me;
Then the eyes close, calmly close, and I speed forth to the darkness,
Resuming marching, ever in darkness marching, on in the ranks,
The unknown road still marching.

In Four States.—An old doctor had been called to see a drunken man who had been run over by the cars, and upon answering a good many questions he became angry, and said, "I found the man in four different states: the state of intoxication, the state of mutilation, the state of unconsciousness, and the State of Ohio."

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Original Articles.

THE TREATMENT OF THE DIFFUSE FORM OF SEPTIC PERITONITIS OCCURRING AS A RESULT OF APPENDICITIS; WITH CASES.[1]

BY CHARLES McBURNEY, M.D.,

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THE cases of appendicitis accompanied by some degree of peritonitis are, of course, exceedingly numerous, for the list includes all of those in which the inflammatory process has reached the peritoneal investment of the appendix itself. The exact extent which the peritonitis has reached in any given case cannot be determined by the gross appearances, excepting in those cases where a limiting wall of inflammatory adhesions forms a perfectly distinct separation between the inflamed and the non-inflamed peritoneum. For practical purposes, however, many cases may be divided into two classes: First, those in which suppuration, great or little, has occurred, and in which the septic process is completely shut off from the general peritoneal cavity by the formation of a distinct inflammatory wall of adhesions. Secondly, those in which this protecting wall is either entirely absent, or more or less incomplete.

This latter class is the one to which this paper refers. At the same time I have excluded from consideration those cases operated upon at such an early stage in the disease that, although a complete separation from the general cavity did not exist, the septic process had extended only over the peritoneum in the immediate neighborhood of the appendix. Such cases yield to operation almost without exception, as do the complete abscess cases even when the abscesses are very large and old.

The cases illustrating the diffuse forms are those in which no adhesions exist, or in which these are so incomplete as to allow the peritonitis and its products to rapidly extend either upward toward the liver, or among the small intestines toward the median line, or downward into the pelvis, or in all three of these directions at once. The pelvis seems to be especially the seat of election for the beginning of the diffuse form, doubtless on account of its dependent position and its relation to the situation of the appendix. The overflow of the septic fluids from the neighborhood of the appendix into the pelvis has seemed to me to be clearly the manner in which diffuse peritonitis begins in a large majority of the cases. Such overflow having taken place, an inflammatory boundary of adhesions scarcely ever forms so as to confine the process to a limited portion of the pelvis, but the peritoneum of the entire pelvis becomes very rapidly inflamed and a very septic, sero-purulent, thin exudation accumulates until the pelvis is full.

A few hours suffice for the fluids to overflow the pelvis and to carry the infection far and wide among the intestines. In a few cases where the accumulation of fluid about the appendix has been excluded from the pelvis by a wall of adhesions, the overflow and spread of peritonitis has taken place in another direction, as upward, or inward and upward.

An interesting question is the one as to why, in one case a huge abscess can form and grow for days and even weeks without breaking down its thick barrier of adhesions, and in another case not a single adhesion form and the inflammation and its products spread rapidly throughout the entire abdomen.

It has seemed to me that individual susceptibility to sepsis is an important factor in determining the progress of the disease, and that if deep infection of the tissues takes place early the protective or reparative formation of adhesions does not occur, or at best occurs very imperfectly. Perhaps also the intensity of the septic quality of the inflammatory products in one case may be very much greater than in another.

Another difference which I have noted is this: If some attempt at the formation of a protecting wall of adhesions is present, even if the pelvis is full of sero-purulent fluid, the prognosis is better than in a similar case where no adhesions of any kind are found, as though the presence of adhesions measured the degree of septic infection of the individual. And where the fluids effused have had a large admixture of thick pus, and the intestines have been more or less covered with thick, yellow lymph, even when the pelvis has been full of fluid and few adhesions have existed, the results have been much better than when the fluid has been merely turbid.

Up to two years ago I had regarded all these cases of diffuse peritonitis as nearly hopeless, although, to be sure, an occasional case recovered after operation, removal of fluid, and thorough drainage. I remember that I once made the statement that we could hardly expect any such case to get well, because before the operation was done the individual had already become so septic as to be beyond the reach of surgery. But I had made the attempt, and in many instances, and had made use first of one and then of another method of procedure. The earliest plan was this: An incision about four inches long was made in the right linea semilunaris, and the appendix was sought for and removed. The fluids in the immediate neighborhood of the appendix were sponged away. Then the spaces between the intestines were syringed out with a very weak solution of bichloride, one or more rubber drainage-tubes were introduced, and gauze packing placed carefully about the stump of the appendix. On one occasion I made a supplementary median incision to facilitate cleansing the cavity, and once or twice I put in extra drainage-tubes on the left side or in the loin. All the cases of extensive diffuse peritonitis treated in this manner died. I then made use of Thiersch's solution for washing the cavity, and endeavored to make the process more complete by using very long and large glass nozzles which could be passed to either hypochondriac region or down to the floor of the pelvis. As no better success followed this plan, I gave up the washing, fearing that the fluid introduced merely carried the sepsis more widely through the peritoneal cavity, and made use of dry sponging, endeavoring to remove every particle of fluid. I cannot say that a single case where the whole pelvis was involved and full of sero-purulent fluid, got well under this method of treatment.

In the meantime I had gradually nearly given up, as others had done too, the use of rubber drainage-tubes in treating suppurating spaces in the peritoneum. Introduced at random among the intestines a tube of any kind has little or no value. The intestines fall directly

[1] Read before the Practitioners' Society of New York.

around it, even plugging the end and lateral openings, and no drainage of value takes place. One exception should be made to this statement. When a tube with a firm wall, such as a glass one, is passed to the very bottom of the pelvis, all fluids that occupy the pelvis will find their way into the tube, for the fluid gravitates to the bottom, and as the intestines tend by their weight to occupy the same space the fluid naturally escapes into the tube. Here it can be mopped out or even drained out continuously by a strip of gauze within the tube. The best drainage in all parts of the body is the capillary drainage obtained by using absorbent dry material like gauze, and the more completely this material touches every point from which it is desirable to extract moisture, the more perfect will the drainage be. My attention was then called to the different effects produced upon the peritoneum when washing it with different fluids, but I am unable to say to whom belongs the credit of having first made the observation. It is well known, however, that the weakest bichloride solution, Thiersch's solution, even hot sterile water, have a destructive effect upon the endothelium of the peritoneum. That is to say, the use of such fluids, while they serve to wash away septic material, tends to cripple the absorbing power of the peritoneum itself.

No plan of treatment which could in the least degree deprive one of the valuable service of the peritoneum as an absorbing agent, could be entirely satisfactory. I therefore turned to normal salt solution used at or above the body temperature, the same solution that was recommended long ago by Thiersch as most perfect for skin-grafting. This fluid, used hot and sterile, and of a uniform strength, six parts per thousand, has little or no destructive effect upon the peritoneal endothelium. The same is true of its application to other delicate tissues, so that in open suture of the fractured patella, for instance, the joint may be thoroughly irrigated and closed, and almost no adhesion of the serous surfaces to one another will follow. It is probable that no actively germicidal fluid can be introduced with safety into the peritoneal cavity, of sufficient strength to be of value in directly destroying the toxic products accompanying a septic peritonitis. What we may endeavor to accomplish is to completely remove the primary source of the sepsis, to more or less thoroughly wash away the secondary products, and to drain away quite completely the fluids left behind and those of post-operative formation. What we cannot accomplish by these means, must be accomplished by the eliminative powers of the individual, and here the integrity of the peritoneum as an absorbing agent is most important. When a case is met with, where septic material sufficient to kill has already been absorbed by the individual, the means that I have spoken of will be of no avail. We may wash and drain to absolute perfection, but our labor in this direction will be useless Possibly the future has in store for us an antitoxin which will accomplish what now seems hopeless.

In the cases which I bring forward to-night, the following plan has been adopted with almost no variation. The incision has been large, from four to five inches long, and has been made as near to the anterior spine of the ilium and the outer part of Poupart's ligament as possible. After opening the peritoneum every effort has been made to remove at once with sponges all fluids in view. Then the appendix has been sought for, removed, and the stump cauterized. The character of the case has, of course, by this time been appreciated, and the fact noted that either no adhesions have existed, or that they were imperfect, or having existed, that they have given way under the pressure of the fluid they restrained ; in other words, that the abscess has ruptured into the general peritoneal cavity. Search has then been made for further collections of fluid, the pelvis being usually examined first, unless this has been clearly walled off by adhesions. Rarely have I deliberately broken such wall, and only when tenderness at another point, or other sign, has led me to suspect secondary formations. In most of the cases, the pelvis has been found more or less filled with a sero-purulent, often offensive, fluid. Where such collections exist, the peritoneum on the intestines is always unnaturally injected. Then cautious search has been made in other directions for similar fluid accumulations. That is, a small sponge on a handle has been carefully pushed first in one direction and then in another, and closely examined for the presence of fluid. When all purulent or sero-purulent products have been as thoroughly sponged away as possible, the washing process is begun, sterile salt solution of the uniform strength of six-tenths of one per cent. being used as hot as can be comfortably borne by the hand of the operator.

In the cases reported only one method of performing the washing has been employed. The solution has been poured from a pitcher or glass flask so as first to fill the pelvis. This has been sponged out rapidly and then a fresh supply poured in, and so on until the fluid returned perfectly clear. At the same time I have used an ordinary operating sponge on a long handle, very much after the manner in which the piston of a pump works, rapidly and vigorously pumping up and down from the bottom of the pelvis to the wound. When the solution returns perfectly clear the same washing has been made in the right loin, and then in any direction where septic fluid has been detected. Finally, the pelvis has been sponged as dry as possible and a long glass drainage-tube with lateral openings passed to its very bottom, a piece of gauze for drainage passing through the tube from one end to the other. A single strip of iodoform gauze has usually been passed close beside the tube and also to the bottom of the pelvis. If the loin has been suspected and washed, iodoform gauze is passed upward outside of the colon as far as the kidney. If the general cavity toward the median line, or beyond, has been involved, the packing is introduced in strips from three to six inches beyond the wound in various directions among the intestines. Finally, the large wound surrounding the stump of the appendix has been widely packed with gauze—no suturing of any kind being attempted—over all a large mass of dry sterilized gauze and cotton is bound with a firm, broad binder.

In the after-treatment a stimulating enema containing from a half-ounce to one ounce of whiskey or brandy is administered, and also a hypodermic injection of morphine and atropine. The stomach is not made use of until quite able to bear fluid food, nutrient and stimulating enemata being sufficient for one or two days if necessary. The glass tube in the pelvis is tested and swabbed out every few hours at first, until found to be dry, and is usually removed at the end of twenty-four or thirty-six hours, a single strip of iodoform gauze taking its place. The change of the outer dressings is made if any sign of saturation is noted, but the deep wound packings are not removed for three days. Even then it is often too painful and difficult to remove the deepest and longest gauze masses, and these may be left in when necessary for five and six days. The active drainage that these have effected is seen in the dry appearance of the spaces left behind. The second packing is very much reduced in quantity, none of the spaces being so widely and deeply packed. Often, to relieve flatulence a large soap and water enema is given at the end of twenty-four hours, and if no results follow this is repeated. Only in case enemata are totally ineffectual is recourse had to laxatives. In that case ¼-grain doses of calomel every hour, followed by a saline at the end of six or eight hours, are my preference. Sufficient morphine is given to moderate continuous pain.

In the cases that have recovered, the effect of the operation and washings has been immediate, the temperature being reduced at once to nearly the normal standard, and not rising again noticeably unless second-

ary abscess has formed. In the cases that have not recovered, a temporary lull of a few hours only has been noted, and then all the signs of septic peritonitis have rapidly returned and increased.

In regard to the symptomatology of the class of cases reported, I may say that the character of the case has usually, but not always, been appreciated by the widespread tenderness, high temperature, rapid pulse, increased vomiting, and positively ill look of the patient. In some of the cases, the signs have been only those of ordinary well-localized suppurative appendicitis. The cases reported are all of those of the diffuse form upon which I have operated during the past two years up to the present date, and also all of those operated upon by my assistants at the hospital. The number of cases is 24. Of these 14 recovered and 10 died. Besides these quite a number of others have been brought to me for operation, or I have been called to them, and found them in too hopeless a condition to justify interference.

CASE I.—Miss S. M——, aged twenty-two, patient of Dr. John A. Wells, of Englewood, N. J. Primary attack. This patient's illness began on the morning of May 11, 1893, with very moderate symptoms, which did not prevent her from walking to her physician's office for advice. The usual history of increasing disease followed, and on the following evening Dr. Wells strongly urged operation, although the disease was clearly localized and the temperature was only 100° F. A sensitive tumor of moderate size could be felt in the right iliac fossa close to the iliac spinous process. At about or after midnight there was sudden accession of very severe pain, accompanied by great prostration, vomiting, and the disappearance of the tumor. The patient was seen by me at about six o'clock on the following evening, having refused, up to that time, to entertain the advice to allow operation. All the signs of general septic peritonitis existed. The face was dusky and the expression anxious. The pulse-rate was 130 and the temperature, 103.5° F. The abdomen was greatly distended, discolored, and very tender at all points. Vomiting was frequent and black. The patient was in great distress, with rapid respiration, but her mind was clear.

On May 13, 1893, with the assistance of Dr. L. W. Hotchkiss and Dr. John A. Wells, operation was done at 7 P.M., a very unfavorable prognosis being given. A large quantity of thick pus with abundant admixture of sero-purulent fluid escaped as soon as the peritoneum was opened. A large sloughy orifice existed in a much diseased appendix, which was removed. In the immediate neighborhood of the appendix were several ounces of thick pus. Above and toward the median line a well-defined and perfect abscess-wall existed. This wall had evidently been perfect below and had given way, so that a larger communication with the pelvis and general peritoneum existed. The pelvis was full to overflowing with sero-purulent fluid, very turbid, and the intestines highly injected, and here and there covered with broad layers of lymph, but without adhesions. This description of the pelvis applies also to every portion of the general peritoneal cavity that we brought into view, but probably the complete abscess-wall at the upper portion prevented contamination of the upper right half of the abdomen.

The prospect was not encouraging, but the treatment was very thoroughly applied, many quarts of hot sterile salt solution being used in washing. A large glass drainage-tube was passed to the bottom of the pelvis and left there—gauze being inserted within it. The gauze packings were very generous, passing in various directions into the pelvis and among the intestines upward and toward the left side. The wound was very widely packed. Nausea and vomiting were troublesome for days after the operation, but the pulse, temperature, and general signs were satisfactory until the 17th, when, for a few hours the temperature reached 102° F., without assignable cause. On the next day it was 99° F. The glass tube was removed on the 15th, the end of the second day, and much of the dressings changed. Dressings were changed every two or three days afterward. On the 24th, the eleventh day, a chill and high temperature indicated a secondary pus formation, which twenty-four hours later was opened on the inner wall of the original abscess. No other incident occurred, and the patient walked about on the thirty-ninth day after operation. Probably no patient ever received greater care and attention than this one received from Dr. Wells, to whom, indeed, I feel that the successful result is largely due.

CASE II.—C. L. J——, feeble and prematurely old, aged sixty-five, patient of Dr. J. B. Knapp. This patient had had three attacks of mild appendicitis during the past year. At one o'clock P.M., on the day before I saw him, the fourth attack began with pain felt in the right iliac fossa. Pain steadily increased in severity. No vomiting occurred. Pain spread rather rapidly over a considerable area, and before operation very moderate distention was noted. The pulse-rate was 96, and temperature 101° F. Operation was done on January 30, 1893, about thirty hours after the beginning of the attack. The caput coli and neighboring small intestines were found markedly inflamed. The appendix was partly gangrenous, and had a large perforation near its base; much purulent lymph exudate was noted on the large intestine. No abscess wall existed, and the pelvis was full of turbid sero-purulent fluid. Thorough washing of the whole pelvis and right half of the lower abdomen was made, and the usual pelvic tube and other packings introduced. Enemata failed and the bowels did not act until the fourth day, after calomel and Rochelle salts. No interruption to recovery occurred, but healing was slow and not finished until three months had passed.

CASE III.—F. B——, colored, aged fourteen years, admitted to the Roosevelt Hospital on December 19, 1894. Forty-eight hours ago sharp onset of appendicitis with chill, nausea, and vomiting. During the last few hours the pain has extended to the left side.

On admission the abdomen was somewhat distended and tympanitic. Whole lower half of abdomen very tender. Temperature, 103.2° F. Operation on December 19th. Thin purulent fluid escaped as soon as the peritoneum was opened, and continued to flow from among the intestines. The intestines were reddened and partly covered with fibrin. Some loops appeared to be of a normal color. The appendix was found much diseased and perforated. Much thin, milky pus filled the pelvis. General washing of the whole abdominal cavity was practised, a pelvic tube introduced, and extensive packing made. The shock from the operation was great, but under active stimulation the patient rallied, and has constantly improved up to the present date. His recovery is entirely assured. Long before time of publication this patient had reached complete health.

CASE IV.—Wm. H——, aged twelve years; admitted to Roosevelt Hospital on November 28, 1894; primary attack began forty-eight hours ago. Abdomen distended, very tense, and tympanitic. Marked tenderness in right iliac fossa. Temperature, 103.6° F.; pulse, 128.

Peritoneum opened and fresh adhesions exposed between caput coli and iliac fossa. Beneath these a drachm of thin pus was found. Appendix perforated and containing concretion. Pelvis found full of purulent fluid. Usual washing, pelvic tube, and gauze packings. On December 2d the tube was removed and the packing changed. The temperature remained at about 100° F. On December 6th a secondary abscess, containing one-half ounce of pus, was evacuated from between the intestinal coils on the wall of the abscess.

This patient has now, January 4th, entirely recovered.

CASE V.—Mrs. C. S——, aged forty, patient of Dr. William B. Anderton. This patient was seen by me with Dr. Anderton at the end of about forty-two hours

from the beginning of the disease, on March 20, 1894. The first day's history was that of mild disease of the appendix. On the second day, pain steadily increased and the temperature gradually rose from 100° F. to 102.5° F. When I first saw the patient the conditions were these: The belly was very large and fat, and moderately distended. Tenderness in the right iliac fossa was extreme, and very marked also over the whole pelvis excepting the left iliac fossa. Operation was done about three hours after consultation, with the assistance of Dr. Anderton, Dr. C. T. Parker and Dr. S. Beyea. Thick pus and a few adhesions were found about a sloughy and perforated appendix. The abscess communicated quite freely with the pelvis, which was overflowing with a very milky sero-purulent collection. The condition seemed to me an exceedingly dangerous one and the prognosis very doubtful. The method already described was very thoroughly applied and very wide packings made. The next day the conditions were practically normal, and with the exception of obstinate constipation and some stomach disturbance, no interruption to recovery followed. Complete healing required some eight weeks.

Case VI.—C. H. W——, aged five. Admitted to Roosevelt Hospital on December 1, 1893. Four days ago sudden onset; abdomen flat, but tender at all points, more especially in right iliac fossa. Very anxious face and ill look. Thin, offensive pus flowed out on opening the peritoneal cavity. The appendix, free and gangrenous, lay in a large cavity, which extended upward to the level of the crest of the ilium, where it was bounded by good abscess-wall. The lower part of cavity was open and communicated freely with the pelvis, which was full of thin, purulent fluid. Usual washing, tube, and packing. Patient did not recover from shock of operation, and died at end of fourteen hours.

Case VII.—George Y——, aged six, admitted to Roosevelt Hospital on July 25, 1893. Sharp onset of appendicitis one week ago. The patient is said to have improved until twenty hours ago, when pain, vomiting, and other signs became much more marked; general expression very bad, abdomen tense and distended, and whole lower abdomen very tender. No tumor can be felt. Operation on July 25th. On opening the peritoneum, thick yellow pus was spontaneously evacuated. The distal half of the appendix was found sloughy and broken down. The intestines were highly inflamed and covered at points with lymph masses; adhesions were very imperfect. The pelvis contained a quantity of yellow pus, and the same fluid escaped from between the coils of intestines. The entire peritoneal cavity was thoroughly washed and drained. The patient did not rally from the operation, and died with a temperature of 106° F. four hours after operation.

Case VIII.—Generoso Pisce, aged thirty-five, admitted to Roosevelt Hospital May 16, 1894. Three weeks ago, pain, chill, sweating, and vomiting. Has been in bed three weeks. Abdomen distended, large tense mass, extremely tender, in right iliac fossa and extending to median line. Abdominal wall rigid, whole abdomen tender on pressure. On opening the peritoneal cavity there was an immediate gush of very fetid, thin pus, which flowed from a large area, and the finger could be passed beyond median line without detecting abscess-wall. Purulent fluid escaped from this direction also. The pelvis and region of the liver were walled off by adhesions. Second incision was made in the left linea semilunaris; a little clear fluid and few flakes of fibrin escaped. Peritoneum found roughened and congested.

This case was perhaps one with a very large and irregular abscess cavity. Packing in both wounds, after washing. Good convalescence followed. Complete recovery June 26, 1894.

Case IX.—C. W——, aged fourteen. Admitted to Roosevelt Hospital October 29, 1894. Sudden onset of disease thirty-six hours ago, with pain, vomiting, and prostration. On admission the temperature was 100° F., and the pulse-rate 100. The abdomen was not distended. The right iliac fossa was very tender to pressure. Operation on October 29th. An abscess cavity containing a much diseased but not perforated appendix was opened, and about two ounces of yellow pus evacuated. This cavity continued down into the pelvis, which contained a quantity of purulent serum. The appendix and masses of inflamed omentum were removed, and the whole pelvis thoroughly washed with salt solution. Glass drainage-tube and extensive packings with gauze were introduced. The first dressing was made on the third day and rapid convalescence followed. The patient was discharged cured on December 5th.

Case X.—G. H. B——, aged fifty, admitted to Roosevelt Hospital December 3, 1894. Attack began with general abdominal pain and vomiting about fifty-four hours before admission. Vomiting occurred only once, but pain steadily increased, with rapid distention of the abdomen and complete obstruction of the bowels. On admission the temperature was 101.5° F., and the pulse-rate 110 and feeble. The tenderness, while general, was most marked over the left iliac fossa; a positive diagnosis could not be made. On opening the belly in the median line the evidences of a general septic peritonitis were at once noted. Few adhesions existed and large quantities of pus flowed from every part of the cavity. The intestines were at every point highly inflamed and largely covered with fibrin. A much diseased appendix perforated by a large concretion was found and removed. Thorough washings and drainage were made, but no mitigation of symptoms followed, and the patient died about twenty-six hours later.

Case XI.—Emily K——, aged eleven, admitted to Roosevelt Hospital April 12, 1894. The attack began four days ago, with the usual signs. On admission, the temperature was 101.6° F. and the pulse-rate 140. The abdomen was much distended, the tenderness general, but most marked in the right iliac fossa. The general expression of the patient was that of severe illness. Operation was done April 12th. At the first incision of the peritoneum, thin foul pus flowed very freely; no adhesions existed, although some fibrinous flakes were seen on the intestines. Free pus extended upward to the liver and filled the pelvis. The appendix was perforated near the base and was removed. The usual washing with salt solution was made and the glass tube and gauze drainage introduced. Patient did not improve after operation and died about twelve hours later.

Case XII.—Daniel B——, aged forty-four, admitted to Roosevelt Hospital December 5, 1893. One previous attack of short duration. Present attack began five days ago with well-marked signs. On admission the temperature was 102° F. The pulse-rate, 130. The abdomen was generally distended, but tenderness on pressure was confined to the right iliac fossa. Operation, December 5, 1893, at 4 P.M. The intestines were found much distended and intensely injected. No separate abscess cavity was found, but free thin pus lay between the coils of gut, and especially next to the wall of the iliac fossa. Some coils were firmly bound together and others were free. The appendix was so tightly bound to a coil of intestines at the edge of the pelvis that it was deemed unwise to dissect it out, and the distention of gut was so great that wide explorations could not be made. Thorough washings with salt solution were made, and large packings with gauze for drainage. This patient made a complete recovery, and was discharged cured on February 2, 1894.

Case XIII.—Franz B——, aged fourteen, admitted to Roosevelt Hospital December 19, 1894. Primary attack beginning forty-eight hours ago. Chill and vomiting. Pain rapidly extended from right iliac fossa so as to include the left side. Abdomen distended and

tympanitic. Tenderness all over lower abdomen. Temperature, 103.2° F. On opening cavity immediate escape of thin purulent fluid. Constant escape of thin pus while handling intestines. Intestines highly injected and largely covered with lymph. Perforated appendix, which discharged pus. Pelvis full of very milky fluid, no adhesions. General washing and very extensive packing with gauze among intestines in every direction. Condition at end of operation very feeble, but steady gain after a few hours of constant stimulation. During December 21st, 10 A.M., vomiting. December 23d, much better, large movements. Eighteen days after operation all conditions normal. Complete recovery.

CASE XIV.—S. C——, nine years of age, was admitted to the Roosevelt Hospital on December 17, 1894. Primary attack of appendicitis had begun two days earlier. The general expression was very bad, the abdomen was greatly distended, and tenderness was extreme all over the belly. The temperature was 102° F. and the pulse-rate 132; operation was done at once. A very purulent general septic peritonitis existed, fluid being found at every part of the abdomen, and the intestines were highly inflamed. Washing and drainage had no perceptible effect on the symptoms, and the patient died thirty-six hours later.

CASE XV.—Nathan H——, aged sixteen, admitted to Roosevelt Hospital on October 6, 1894. Patient's first attack occurred two years ago. The present illness began sixty hours before admission, with sharp onset. On admission the pulse was feeble, and the temperature 103° F. The abdomen was very tense and tender, the thighs were flexed on the body and great complaint of pain was made. Operation was done on October 6, 1894. The intestines were much reddened and covered with fibrin. The appendix was found free and perforated, and surrounded by pus; thin pus escaped from between the coils of intestines. A second incision was made on the left side, and the whole cavity washed and drained. No cessation of the symptoms of septic peritonitis occurred, and the patient died on October 9th.

CASE XVI.—John G——, thirty years of age, admitted to Roosevelt Hospital on July 7, 1893. No previous attacks. Present illness seven days old. For last four days, chill daily followed by sweat. Temperature, 102.8° F.; pulse, 130. Abdomen soft; little tenderness excepting over appendix. Operation on July 7th. Abscess cavity close by colon, which extended freely into pelvis, where several concretions and much necrotic tissue were found. July 8th, 10 P.M., temperature, 104.2° F.; pulse, 130. Septic look, moderate tympanites. On July 9th, a second incision on the left side was made and a second washing of the lower abdomen performed. Septic peritonitis was clearly marked, and steadily increased. The patient died on July 9th, two days after the primary operation.

CASE XVII.—Edward F——, an adult, admitted to Roosevelt Hospital on November 11, 1893. Sudden onset, less than forty-eight hours ago; severe chill with great pain, vomiting, and prostration. On admission temperature, 103° F.; pulse, 108. Abdomen tense and tympanitic. General tenderness all over the right iliac fossa; appendix gangrenous; intestine injected; abundant free, brown, thin pus. The pelvis found to be full of the same fluid. Thorough washing with salt solution and free packing with gauze in various directions. Condition at end of operation feeble. Temperature steadily rose; vomiting persisted; delirium set in, and patient died at end of about thirty hours.

CASE XVIII.—Henry D——, aged twenty-one. Admitted to the Roosevelt Hospital on August 15, 1893. No previous attack. Present onset sudden, two days before, with chill and general abdominal pain, vomiting, and prostration. Temperature, 102° to 106° F.; pulse, 100. Characteristic tender points and pain on pressure over the bladder. Appendix thick and red, with necrotic areas at several points. A little turbid fluid about the appendix. In the pelvis a quantity of purulent serum was found entirely free. The glass tube was removed on the 16th and the conditions seemed excellent in every way. This patient did well until the 26th, when pain returned, vomiting became troublesome, the abdomen became distended, and he died on September 1st with a temperature of 103° F. and a pulse-rate of 150. Doubtless a deep secondary abscess had formed, giving rise to a fresh attack of peritonitis. I regret that I did not again open the abdomen.

CASE XIX.—A. H——, aged twenty-two, a patient of Dr. Toms, of Bellport, Long Island. Third day of disease. Well-marked ordinary signs of appendicitis, much pain, and wide-spread tenderness over pelvis; temperature, 103° F. Operation July 5, 1893. Assisted by Drs. Murray and Toms. Appendix with large sloughy opening, much sero-purulent effusion, and very few adhesions. Small intestines, lower abdomen well injected, and pelvis full to the brim of sero-purulent exudation. Large flakes of yellow fibrin on different portions of small intestines. Adhesions few and feeble. All signs immediately improved after operation, but convalescence, though uninterrupted, was slow and required nearly three months.

CASE XX.—C. P——, aged fifty, patient of Dr. Toms, of Bellport, Long Island, was first seen by me on June 22, 1893. An attack of appendicitis with the usual signs had begun four days previously. The symptoms had gradually increased in severity, but had become much more aggravated during this fourth day. The general expression was that of decided illness, the pulse rapid and full, the temperature 103° F., the abdomen very tense and tender at all points, more especially over the entire pelvis. Operation was done at once, with the assistance of Drs. F. W. Murray and Toms. On first incising the peritoneum a large gush of thin, turbid, sero-purulent fluid occurred. The appendix was partly gangrenous, and no adhesions of any kind were to be seen or felt. The intestines were much distended and highly inflamed. No thick pus or lymph masses were found. The washing of the cavity was carried out very thoroughly indeed, and the usual packings made. A slight lull in the symptoms followed, but septic paresis of the intestines continued, and death, with all signs of septic peritonitis, occurred at the end of about twenty-four hours.

CASE XXI.—A. R——, aged nine years. Admitted to St. Mary's Hospital on February 24, 1893, under the care of Dr. George M. Swift. History of appendicitis of rather mild character of two days' standing. Diagnosis of appendicitis made by Dr. Swift.

At 8 P.M. on the 25th the abdominal pain became suddenly very much increased, spreading over the whole abdomen.

The patient was seen by me at about midnight of the same day, and operation was done at 1 A.M., with the assistance of Drs. F. W. Murray, George M. Swift, and George K. Swinburne. The general expression of the patient was good, the abdomen much distended and tender at all points, the pulse rapid and small, and temperature 102° F. Operation revealed a much inflamed appendix, perforated, and containing a fecal concretion. No adhesions of any kind existed. Scattered collections of yellow pus, and very large quantities of turbid sero-purulent fluid escaped from every direction. The intestines were much reddened, and here and there covered with thick lymph. Very extensive washings with hot salt solution were made throughout the pelvis and general abdominal cavity. A large glass tube was carried to the bottom of the pelvis, and packing with iodoform gauze was made in various directions in the pelvis, in various directions among the intestines, and all about the neighborhood of the wound. I should have mentioned that in this case, to facilitate general washing, a free incision was made in the linea semilunaris on the left side, and packings also

introduced here. At 9 A.M. the pulse was 104 and the temperature 99° F.; no nausea occurred subsequent to operation. The dressings were made every two and three days, and the temperature and pulse remained normal until March 6th, when some abdominal pain was complained of, and the temperature rose two degrees. On March 7th a distinct tender induration was noted just below the umbilicus. I made an incision at this point, evacuating about one ounce of foul-smelling pus from between adherent intestines. After the opening of this secondary abscess, which was due, no doubt, to the overlooking at the original operation of some small quantity of septic fluid, all the conditions became normal and remained so. The wounds were entirely healed on April 17th.

CASE XXII.—Son of F. V. G——, aged fourteen, patient of Doctor W. C. Walser, of Staten Island. Third day of disease, July 20, 1893; highly developed signs of appendicitis, with history of recent marked increase in severity and extent of pain. Temperature, 104° F. General great tenderness over the whole right iliac fossa and over the whole pelvis, excepting the left iliac fossa. Operation July 20, 1893, assisted by Dr. Walser. Abundant thick pus widely spread about the region of the appendix, which was perforated, partly gangrenous, and contained large concretion. Good adhesions above and toward the median line. No limiting wall below, and the pelvis full of very turbid sero-purulent fluid. Intestines markedly injected throughout pelvis. Temperature fell immediately after operation to 100° F., and no subsequent rise occurred. Complete recovery in about four weeks.

CASE XXIII.—Son of G. P. W——, aged fourteen, patient of Dr. W. M. Polk. This patient was seen by me in consultation with Dr. Polk on May 1, 1893. The boy had then been ill, with rapidly increasing signs of appendicitis and peritonitis, for less than thirty hours. The general expression was good, the complaint of pain very great, the pulse rapid, and the temperature 102° F. The abdomen was not much distended, but very tense and tender at all points, though more especially so in the right iliac fossa and over the pelvis. Dr. Polk did the operation, assisted by Dr. C. C. Barrows. I witnessed the operation, and have Dr. Polk's consent to report the case as an illustration of the method I have already described. The incision of the peritoneum gave exit to large quantities of very turbid sero-purulent fluid. The appendix was found directly under the incision, much inflamed, perfectly erect, without adhesions of any kind, and perforated at one point. The washing with sterile salt solution was very thoroughly carried out and large packings with iodoform gauze made. These were not entirely removed until the sixth day, on account of difficulty of detachment. The patient made a rapid and complete recovery without incident.

CASE XXIV.—William K——, aged forty-one, patient of Dr. F. R. McCreery. This patient was admitted to a private room at the Roosevelt Hospital on December 22, 1894, suffering from his first attack of appendicitis, which had begun four days before. On the second day greatly increased pain and severe chill were noted. Since then the pain seems to have decreased; no vomiting has occurred. Operation was done on December 22, 1894. The abdomen was distended but little, if at all. Marked rigidity of the right abdominal muscles existed. The general expression was that of decided illness, the temperature only 100.4° F. and the pulse-rate 88. Great tenderness over the appendix as well as over the whole right flank well into the back. The caput coli was found adherent to the wall of the iliac fossa. The appendix pointed upward outside of the colon. An abscess cavity full of thick pus existed beneath the caput coli and extended upward so as to include the whole right hypochondriac region. The right lobe of the liver was seen bathed in pus. This fluid was also found in front of the intestines as far as the median line. The pelvis contained a large quantity of turbid, purulent, thin fluid, and the intestines, so far as seen, were all injected. The appendix was perforated and contained two concretions. Extensive washing with salt solution was made in all directions where infection was found. One large glass tube was passed to the bottom of the pelvis and a second one upward as far as the liver. Packing with gauze was made upward and downward, and as far as the median line. The subsequent history has been quite uneventful. The dressings were partly changed on the third day, and completely removed and replaced with others on the sixth day. No rise of temperature has occurred and the cavity is now much diminished. To-day, two weeks after operation, all the conditions are normal.

At time of publication of this paper, the patient has long since been out of bed and entirely well with the exception that a single small sinus is not healed.

THE RELATIONS OF MENTAL AND PHYSICAL DISEASE.[1]

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MR. PRESIDENT, GENTLEMEN: Your selection of vice-president carried with it the double compliment of personal award and recognition of the hospital which it is my honor to represent. The assertion is made that medical officers of hospitals for the insane constitute a special sect, not in touch with the general profession, and that, by reason of their isolation and associations, occupation, and interests, they lack opportunity for the application of the principles of medicine, and are even deficient in the knowledge which constitutes the basis of true scientific work. Frequent repetition of this argument has developed a generally accepted belief, not sustained by the facts. The records of medical societies, local, State, and national, bear ample witness to the work of alienist physicians, whose names are conspicuous, as members or officers, in whatever register we seek. Inbred traditions and intuitions are no less indelibly stamped upon the administration than upon the establishment and organization of hospitals for the insane, which are second to none of the monuments to the humanity, charity, and progress of our profession. Speaking for the St. Lawrence State Hospital, representing your section of the State and situated in your county, the reciprocal relations between the general profession and the medical staff have been from the first most active and cordial, and have resulted in an interchange of opinion and experience inestimably valuable in the study of insanity and its relations with so-called physical disease. The conclusion is inevitable that the distinctions and differences are more apparent than real, and that successful results in the treatment of disease of the brain are attained by pure medical methods no less than in the treatment of affections of any other part of the organism. Mental disease as an entity, whether its manifestation be melancholia or mania, exhilaration or depression, disorder of the will or of the emotions, yields to the preponderating physical depravity, and remains only as a complicating group of symptoms, often, it is true, perplexing and obscure, but subordinate. As the artist's canvas is primed with the tone which is to prevail in the finished painting, that the scene may present the bright glow of spring or summer, the richness of autumn, or the crisp, frosty cheerfulness of winter, so in our cases of physical disease there is the background of insanity, with its multifarious perversions of function, which obscure the plainer symptoms and give an altered tone to the completed clinical picture.

In investigating the interdependence of physical and mental disease, we are confronted by the variety and

[1] The Vice-President's Address, delivered at the semi-annual meeting of the St. Lawrence County Medical Society, October 16, 1894.

richness of the material. The doubt is raised whether a true physical basis of insanity is displayed, or a science of the mental symptomatology of disease is evolved, which now contents itself with the few characteristics of the *spes phthisica*, the anguish of cardiac disorders, irritability of nephritis, or depression of dyspepsia. For discussion of my thesis, I submit cases from the hospital records, with consideration of the results upon the mental condition of changes in the physical health.

The Nervous System.—The mental defects following gross organic lesions of the brain are well known and of obvious origin. Less pronounced are their premonitions. Temporary disorders of the special senses or of speech, transient localized spasm or numbness, vertigo, syncope, or general weakness, are suggestive and threatening, but of greater import when enforced by loss of memory, irritability, or other form of emotional excess, which alone are of no greater value than the rare and almost unexplainable presentiments in the mind itself of its own destruction. Dean Swift was one day found gazing in a solemn state of abstraction at the top of a lofty elm, whose head had been recently blasted by a hurricane, and exclaimed, "I shall be like that tree—I shall die at the top first."[1] And in the journal of Scott, the melancholy anticipation of his own fate, with Swift's end vividly in his mind, is shown in an entry "expressive of his fear lest the anticipated blow should not destroy life, and that he might linger on, a driveller and a show."[2]

In case No. 1054, there was sudden accession of limited and fixed delusions, referrible to disturbance of general sensation, and resulting in grotesque ideas more characteristic of long-developing insanity than of the turmoil and variations of acute mania. The patient, a woman, aged fifty-seven, married, of culture and good antecedents, was admitted to the hospital July 3, 1893. She was said to have been of nervous temperament and to have presented symptoms of insanity for one year prior to admission, but the exciting cause was not known. During the week before admission her mental condition had developed active and destructive mania, with great irritability, self-assertiveness, and the use of objectionable language—all contrary to her general character. She was especially abusive and hostile to her husband, with whom her relations had been of the most affectionate and pleasant nature. About one month after admission she showed exhaustion, fairly rapid in its onset, and at the same time fixed her attention upon the delusion that her legs and the legs of other people were made of straw and wood with "the skin stretched over." She persisted in this assertion, always referring to legs. Later she complained of severe pain in the knees and ankles, more especially the right knee, which appeared slightly swollen but not reddened. She was placed in bed, and immediately developed acute bedsores upon the buttocks and upon the right heel. There were cutaneous hyperæsthesia of both legs, increased reflexes of sole and patellar tendon, with pain on movement. The marked cerebral disturbance manifested by these mental and physical symptoms, suggested disorder of the brain circulation and of approaching apoplexy. The possibility of this latter result was predicted upon these grounds. On August 11th, less than six weeks after her admission to the hospital, and less than two weeks after the grouping of the symptoms described above, she suffered an attack of apoplexy shortly after dinner, and died in twelve hours.

As pre-eminently the type of perverted nervous function, neurasthenia bears direct association with insanity, of which it is a wellnigh universal complication. In chronic cases long past the initial neurasthenic stage, its impress remains in the enfeebled circulation, intestinal torpor, dilated pupils, retarded and benumbed sensations, motor debility, and inactive reflexes. In the genesis of insanity, the departure from health is initiated by the train of neurasthenic symptoms, of which the earliest is the development of pathological from physiological fatigue. The sequence and relations of these manifestations have been shown by Dr. Cowles[1] to be, on the physical side, lack of control of nerve-force, failure of co-ordination, and increased excitability with quick exhaustion; the earliest mental indications are weakness of the faculty of attention and alteration of the bodily feelings, producing a sense of ill-being and of effort. So far the symptoms are those of normal tire, amenable to the relief afforded by usual processes of recuperation. The morbid state follows the grafting upon these symptoms of introspection, retrospection, apprehension, worry and hypochondria, irritability and restlessness, from which the change to suspicion and delusion is but a step. Treatment, often ignoring the superficial signs, is directed to the underlying pathological condition and the restoration of healthy tone, and upon this ground the forces of the practitioner and the hospital physician meet.

Rest is the prime indication. When this may be best secured by withdrawal from sources of irritation, and the novelties of sight-seeing and similar mental stimulation, from the sympathetic and too-fidgety interference of well-meaning but oppressively anxious friends, isolation becomes imperative, often in the hospital. There, induced by routine manner of living, by well-ordered direction of trained nurses, and by nutritious food, properly adjusted in time and quantity for the digestive capacity, improvement is often rapid and permanent. The action of tonic drugs is reinforced by electricity and massage. At a proper moment in convalescence, hebetude is sought to be overcome by the stimulation of carefully regulated diversion, and the physical and mental recuperation to be completed by calisthenics, drives, short walks, and easy games, as croquet and tennis.

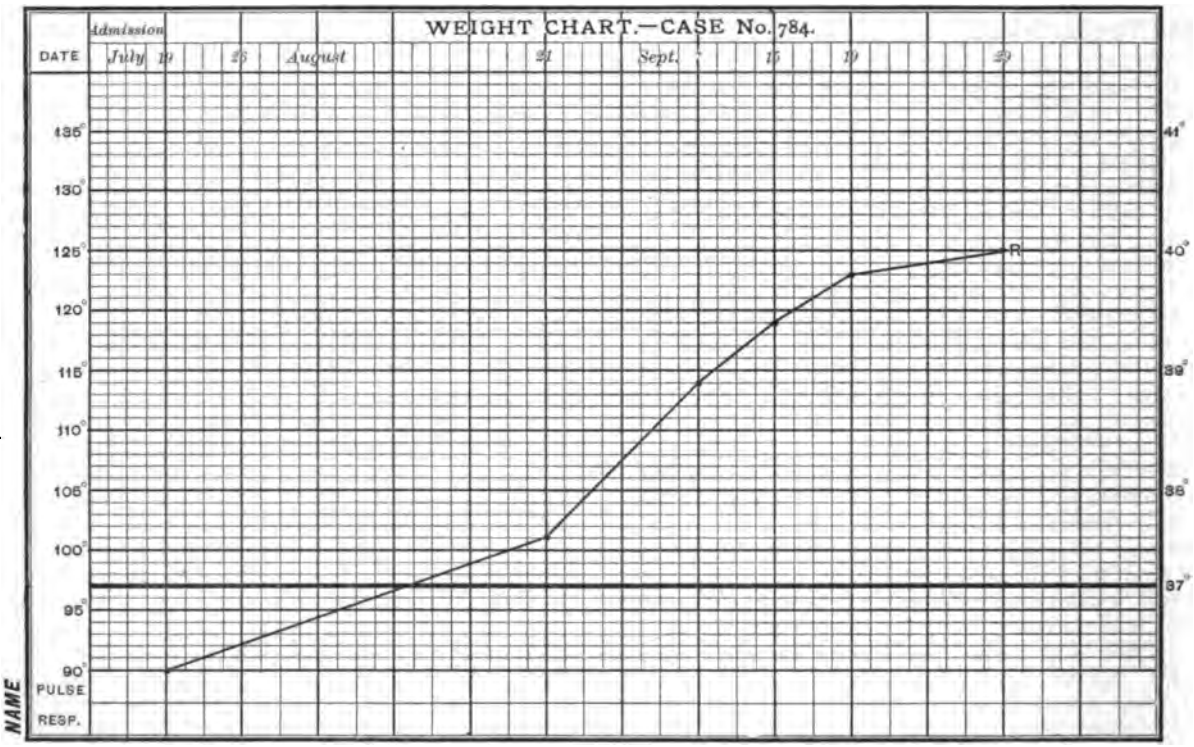
Case No. 784.—Woman, aged fifty, widowed, nativity Canada, was admitted to the hospital July 19, 1892. It was stated that three years before admission she had fallen from a window, striking her face, and soon afterward became insane. She was treated in another hospital, improved, and was discharged. Later she became excitable and almost uncontrollable. She was subject to periods of excitement in which she expectorated profusely. She claimed that there was a discharge from the posterior nares, that her tongue "trembled at the root," and that her "jaws rattled;" that she had falling of the womb and pruritus. She had paroxysms of irritability, in which she attacked other people. When examined by physicians, she said she wanted to get married and was flirting with the man in the moon, and the barber's pole; that she had fallen and had struck her womb. She was feeble and emaciated when admitted, and weighed ninety pounds. She remained in bed after admission and improved rapidly during the first three weeks. She was fed liberally and was given a tonic of gentian, glycerine, and iron. The salivation continued, and there was also profuse sweating. She complained of pain and peculiar sensations referred to almost every part. On August 1st she was able to sit up a few hours each day, and to leave her room. She then began to show cheerfulness, her physical symptoms gradually disappeared, and there were no more paroxysms of scolding and delusional excitement. From that time, she improved rapidly, became bright and coherent, and on September 28th she was discharged from the hospital, recovered. From her admission on July 19, 1892, to her discharge on September 28th, she gained in weight from ninety pounds to one hundred and twenty-three, and shortly after arriving home she wrote that her improvement had continued, and that she was still gaining in weight.

[1] Forbes Winslow: Obscure Diseases of the Brain and Mind, pp. 196, 197.

[2] Lockhart: Life of Scott.

[1] Cowles: Neurasthenia and its Mental Symptoms. The Shattuck Lecture, 1891.

The Digestive System.—Disorders of digestion are not less frequent complications of insanity than of its associated neurasthenic state. Their correction is essential to successful treatment, and may be expected to exert a prominently favorable effect upon the mental disease. Stomach and intestinal dyspepsia, functional derangement of the liver, constipation and its sequelæ, almost invariably attract attention during the acute stage.



Cases of this class, including those arising from cholelithiasis and intestinal parasites, have furnished substantial grounds for belief in the so-called sympathetic insanities, now gradually yielding to a more exact pathology, which discriminates in degree only between the infantile eclampsia of intestinal irritation and the gradual and more remote reflex of fecal accumulation. Sufficient cause is found in the disturbance of the myriads of nerve-filaments supplying the great expanse of the intestinal tract, and the resulting depravity of nutrition from either impoverishment or contamination. Recovery from acute melancholia following removal of fecal impaction is reported by Dr. Hutchinson,[1] and I have recorded a similar case, in which the same operation was followed by relief of a stuporous melancholia and restoration of the patient to his home and vocation.

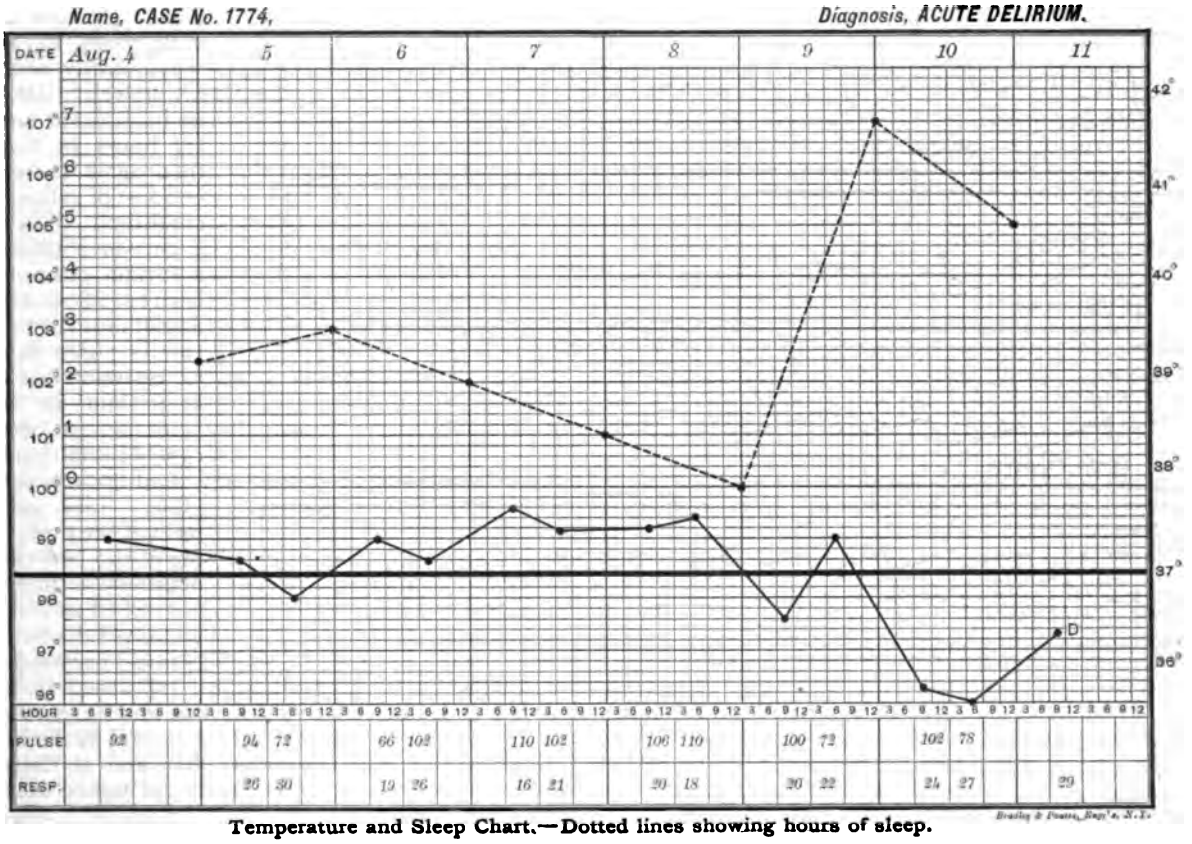
The study of auto-intoxication of the individual from intestinal poisons, throws much light upon the etiology and complications of acute insanity. The ensuing melancholia or mania is active and severe, often with delirium, and followed by rapid emaciation and critical exhaustion. Sunken eyes, dilated pupils, parched and furred tongue, sallow and harsh skin, rapid and weak, irregular pulse, sunken and doughy abdomen, anorexia, constipation, elevated temperature, acute sensibility, unconsciousness, and frenzy reveal the impoverishment of the central nervous system and the dangers of typhomania. Treatment, however prompt and energetic it may be, more often loses than wins. No sedatives with debilitating after-effects are indicated; sulphonal and trional may be cautiously administered; disinfection of the *primæ viæ*, active stimulation and enforced rest, with abundance of easily digested or pre-digested food, may avert the threatening dissolution.

Case No. 1774.—Woman, aged thirty-six, widowed, nativity United States, housewife, was admitted to the hospital August 3, 1894, in a condition of acute delirium. She was said to have been insane for one month, following frequent parturition with ensuing lacerations. The medical certificate of insanity stated that she was restless and depressed, erratic in thought and conversation, had delusions "which appeared to cause her much trouble;" that she talked incoherently and said she had "old stickers" in her legs; that she thought the electric cars were running under the house and she could hear the men shouting to her. Her friends stated that she studied the planets and was constantly busy with her delusions; also, that she did not sleep. At the time of her admission she was notably debilitated, emaciated, and very anæmic. She expressed delusions freely, and they appeared to be based upon active disturbance of the senses. She suffered, at first, quickly recurring attacks of delirium with delusions of persecution and apprehension. Physical examination revealed a feeble, slightly irregular pulse; pale, dry, harsh skin; feeble impulse of heart, without murmur; decided cutaneous hyperæsthesia; dilatation of the pupils; irritable, cracked, but moist tongue, without coating; urine of high specific gravity, with a trace of albumin and a deposit of leucocytes and amorphous urates. The day after admission the debility was profound and the delirious state active. A tonic of iron and strychnine was prescribed, milk punch was ordered, and daily applications of the faradic current were directed. Two days later intractable diarrhœa began and continued, little influenced by active measures for its relief. Three days after admission digitalis was administered every three hours, and attempts were made to control delirium by the hot pack. On the following day nitro-glycerine was administered, in addition to the digitalis, every two hours. At the end of the first week, digitalis, strophanthus, nitro-glycerine, strychnine, and whiskey were administered at hourly intervals in succession, either subcutaneously or by the mouth. On August 11th, eight days after admission and five weeks after the disease was said to have begun, the patient died.

The necropsy revealed intense engorgement of the cerebral vessels with streaks of opacity of the arachnoid membrane, cysts of the choroid plexuses, and softening of the cerebral mass. In the lateral ventricles were patches of reddish discoloration and extravasation in the line of the arborescent vessels. There were tubercular

[1] American Journal of Insanity, vol. xliii., p. 264.

deposits and fibroid tissue in the lungs. The heart contained recent clots and small areas of extravasated blood, but was without valvular lesion. The stomach was dilated and reddened, and the small intestine was injected and contained an abundance of slimy mucus. The kidneys were enlarged and pale, with slightly adherent capsules. Microscopic examination showed cloudiness of the epithelial elements and desquamation of the tufts and tubes, but no diapedesis of blood-cells, the whole presenting the appearance of "acute degeneration," as described by Delafield and Prudden,[1] and



Temperature and Sleep Chart.—Dotted lines showing hours of sleep.

referred by them to the conditions resulting from acute poisoning or inflammations of other organs.

The Circulatory System.—Treatment of organic diseases of the heart and blood-vessels is at the best only compensatory, whether the degenerated valves or non-elastic vascular tubes be affected by the various constitutional affections, rheumatism, gout, nephritis, alcoholism, and syphilis, idiopathic arterial sclerosis, or by the more tardy calcification of advanced age. In frequency of occurrence and the importance of its results, general arterial sclerosis, or arterio-capillary fibrosis, assumes a prominent place, Dr. Wise[2] having recorded ten cases in the admissions of two years to the St. Lawrence State Hospital. The small, firm pulse, with unyielding vessel wall, the forcible and displaced impulse of the hypertrophied heart, and the mental and physical aspect of "premature senility," not rarely escape observation. At the necropsy the vessels yield less readily to the knife, and from the cut surfaces of the kidneys, liver, and brain the elongated and twisted tubes protrude from gaping perivascular canals.

Similarly emphatic are the effects upon the brain of the fluctuations in the blood-current from valvular disease of the heart. Between insanity and the anxious facial expression, sense of impending danger, syncope, and vertigo attending cardiac lesions, the distinctions merely involve questions of diathesis; while upon the mental images of the insane the complicating heart dis-

[1] Delafield and Prudden: A Handbook of Pathological Anatomy and Histology, third edition, p. 403.

[2] Bodily Disease and Senility: a Contribution to the Discussion on the Causation of Insanity, p. 6. Transactions of the New York State Medical Association, 1891.

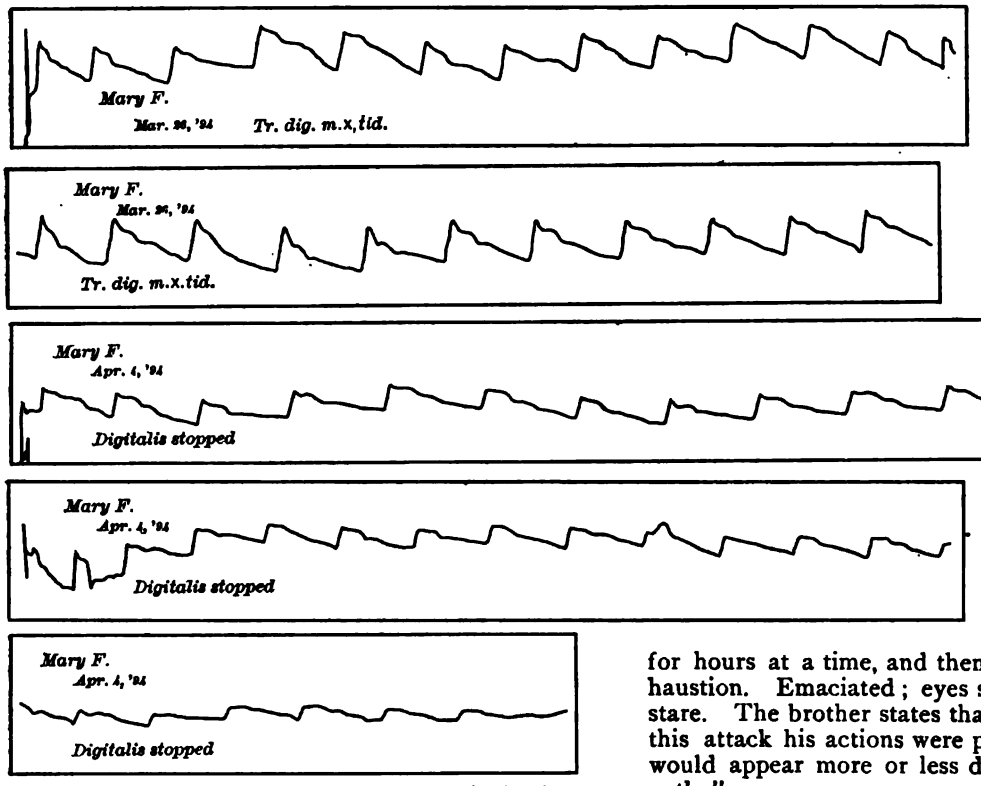
ease throws its shadow and even determines the character of the delusions. Dr. Mickle's[1] analysis shows mitral regurgitation to be most frequently accompanied by depression, with delusions of persecution and suspicion; mitral stenosis with impulsive excitement and discontent, delusions of ill-usage and of poisoned food; aortic regurgitation with loquacity and delusions of exaltation and of internal sensations, such as magnetic influences; and aortic stenosis (often associated with general paralysis) with impulsive violence and delusions of persecution and poisoning. In the following case, of which sphygmographic tracings are shown, temporary benefit followed tonic and stimulating treatment of the heart by the use of whiskey and digitalis.

Case No. 919.—Woman, admitted to the hospital January 6, 1893, aged seventy-one, widowed, nativity New York, housekeeper. Patient was brought from a county almshouse, and at the time of admission expressed ill-defined delusions of persecution, stating that her associates in the almshouse had accused her of following the men out of doors, and that they "twitted and plagued" her. She wept and showed great depression when conversing. The medical certificate of insanity stated: "Said that she hears voices during the night charging her with being intimate with men; that she is now carrying a child by some man; that she is annoyed by a certain woman kicking her bedstead during the night; that she is accused of going out nights with men; that certain persons attempt to poison her. Talked constantly, protesting her innocence; was in constant motion with her head and hands; cried and swore. Appearance and manner that of an excited, nervous, irresponsible person. Has grown thin and haggard during the past three months, and her delusions are more fixed. She left the dinner-table and went out to vomit poison that had been concealed in her food; wrings her hands; cries and talks of her imagined troubles while at her work."

Physical examination on admission revealed the cardiac impulse in the nipple line, feeble first sounds,

[1] The Goulstonian Lectures on Insanity in Relation to Cardiac and Aortic Disease and Phthisis, the British Medical Journal, March, 1888.

greatest intensity of second sounds in third costal interspace, and irregularity of beat. During her residence in the hospital patient has been subject to paroxysms of excitement characterized by activity, during which she walks anxiously up and down the ward, wringing her hands, weeping, and complaining that she is being poisoned and otherwise injured, and apparently entirely overcome by her fears. On February 14, 1894, physical examination revealed displacement of the apex-beat to the nipple line, and a blowing systolic murmur entirely replacing the first sound of the heart, with maximum intensity at the apex and



Tracings showing the Effect of Digitalis upon the Pulse, with Coincident Improvement in Mental Condition.

area of convection from a point midway between the pulmonary interspace and the apex to the ensiform cartilage, and laterally as far as the anterior axillary fold. With the use of a prescription containing tincture of digitalis, tincture of the chloride of iron, and whiskey, the patient was rendered more comfortable and there was less severity of the mental manifestations, with more frequent remissions. With discontinuance there was marked change in the character of the pulse, and more pronounced mental agitation and excitement.

The Genito-urinary System.—That there should be great divergence of opinion upon the relations of kidney and mental disease follows naturally upon hospital neglect of systematic urinalysis, and indifference to mental manifestations on the part of the practitioner. Dr. Osler's[1] recent work is almost alone in assigning to insanity a prominent place among the cerebral symptoms of uræmia. That somnolence, stupor, vertigo, headache, spasm, convulsions, coma, and delirium might and do arise from the same causes as mania and melancholia is not inconsistent with our knowledge of the relations and functions of the brain. I recall four conspicuous cases of uræmic insanity, of which two resulted in death, one in chronic insanity, and one in restoration to mental health.

CASE No. 1688.—Man, admitted to the hospital May 18, 1894, aged sixty-five, widowed, nativity United States, fisherman, temperate. Assigned causes of insanity, rheumatism and nephritis. At the time of admission patient was feeble and pulse was 96, feeble, and of high tension; temperature, 99.2°; tongue dry and with brown coating; pupils contracted; and urine contained albumin, uric acid, and hyaline and granular casts. The heart was hypertrophied and the beat forcible and labored. This was his first attack of insanity, and was said to have existed for one month. Patient's attending physician stated: "He has had rheumatism for twenty-five years; the last attack was in July last, and he was confined to his bed for four or five months. When I first saw him, about May 1st, he lay in a comatose condition which continued for four days. He now takes milk, voids his urine involuntarily, and also his bowels. He will be in constant motion for hours at a time, then again there will be a sort of cataleptoid condition. Will hold a cup or a pillow in a certain position for hours at a time. Sometimes it requires two or three persons to restrain him and keep him in bed." The medical certificate of insanity stated: "Said nothing intelligible. Lies in bed most of the time, picking at the bed-clothes or pillow; at times gets out of bed and tries to go out of doors. He is thus busily engaged for hours at a time, and then will fall asleep from exhaustion. Emaciated; eyes sunken and have a vacant stare. The brother states that for several weeks before this attack his actions were peculiar, and at times he would appear more or less dazed and talked incoherently."

The patient was given a liberal amount of liquid diet and the bowels were kept open by the use of frequent doses of Epsom salt. Diuretic and tonic drugs were ordered. He improved steadily, and on August 7, 1894, three weeks after admission, he was discharged from the hospital mentally recovered, taking with him a caution upon the dangers of his Bright's disease and the possibilities of recurrence of his uræmic state.

The Respiratory System.—The revolution of opinion as to the communicability of tuberculosis is not without marked effect upon present understanding of the relations between insanity and this fatal complication, which holds so prominent a place in the mortality tables of hospitals for the insane.[1]

That the debilities of insanity furnish suitable opportunity for the propagation of the tubercle bacillus is consistent with the theories of its life history; that something more is required is strongly suggested by the experience at the St. Lawrence Hospital. Beside the subsidence and cure of tuberculosis in a few instances present upon admission to the hospital, the mortality rate has been surprisingly low. Since the opening of the institution in December, 1890, to the present time (September 1, 1894), there have been 228 deaths. Of these the cause of death in 19 cases was assigned directly to tuberculosis, and in 17 additional

[1] The Principles and Practice of Medicine, p. 738.

[1] In the New York State hospitals during the fiscal year 1892, of a total of 682 deaths, 79 were attributed to phthisis pulmonalis, 4 to general tuberculosis, and 20 to pulmonary tuberculosis; while of other causes, exhaustion from the various forms of mental disease stands first, with 126 cases, followed by general paralysis of the insane with 68 cases. Report of the New York State Commission in Lunacy for 1892, pp. 272 et seq.

cases, in which death was due to other causes, and in which autopsies were made, tubercular lesions, for the greater part latent and subordinate, were discovered. During the fiscal year ending September 30, 1893, there were 75 deaths, of which 6 were due to some form of tuberculosis. Of 14 deaths occurring at the Clinton State Prison at Dannemora, N. Y., during the same period, 10 were due to tuberculosis. With almost entire exemption from other causes in the latter institution, there had been no decrease in the mortality from tuberculosis.[1]

Case No. 1688.			*Urinalysis*		
1894	REACTION	SPECIFIC GRAVITY	ALBUMEN	SUGAR	MICROSCOPICAL APPEARANCES.
May 21	Acid	1028	Yes	No	Uric acid, hyaline and granular casts.
" 26	"	1020	"	"	" " " "
June 6	"	1010	No	"	Blood, amorphous urates, epithelium.
July 4	"	1012	Yes	"	Uric acid, hyaline and granular casts.
" 11	"	1020	"	"	Casts.
Aug. 1	"	1015	"	"	Casts and blood.

The climatic conditions of the two institutions are not dissimilar. Both lie upon the border of one of the great health-resorts for consumptives of America. The hospital is new, and in its construction hygienic and sanitary principles had careful and perhaps elaborate consideration. It receives inmates from whom absence of physical debility of one form or another is the exception. At Dannemora no insane people are retained.

In the light of these facts the question of the relation of insanity and tuberculosis resolves itself into a consideration of the predisposition of the two diseases. In seeking their cause we are attracted by the theory of the functions of the nervous system advanced by Dr. Maudsley:[2] "Perhaps I might set it down as a true generalization that the morbid neurosis, when it is active and gets distinct morbid expression, may manifest itself in four ways: *a*, in disorder of sensation—for example, paroxysmal neuralgia; *b*, in disorder of motion—for example, epilepsy; *c*, in disorder of thought, feeling, and will—mental derangement; *d*, in disorder of nutrition—whereof diabetes is the earlier and phthisis is the later stage." And in Dr. Blandford's[3] classic treatise on insanity is written: "I have found, however, that phthisis and insanity do frequently co-exist in the same family, but that some members will be afflicted with insanity, while others suffer from phthisis, and that this is the rule rather than that both disorders co-exist in greater or less degree in all the members of the family."

To this Dr. Stearns[4] adds the weight of his experience: "We often see that a consumptive patient has a child, which instead of developing consumption develops insanity, and *vice versa*, an insane person may have children of a phthisical tendency."

CASE No. 1151.—A girl, sixteen years of age, was admitted to the hospital September 25, 1893. She was said to have been insane eight years, and her attacks had been of an epileptiform nature, characterized by sudden outbreaks of violence, and probably associated with unconsciousness, either partial or complete. Heredity was the assigned cause; eight paternal great-uncles and great-aunts had died of phthisis, and her paternal grandfather was epileptic in youth, and neurotic. During her residence in the hospital—which was for little more than six months—she had an attack of intractable bronchitis and laryngitis with marked laryngeal congestion and aphonia, and also a subacute inflammation of the sheath of one of the flexor tendons of the palm of the hand.

To Dr. Clouston's[1] analysis of the mental symptoms of phthisical insanity, little has been added: "Looked at solely from the point of view of the mental symptoms present, some of the cases would be called mania of the mildly delusional, slightly demented type; more of them would be called melancholia, also of the mildly delusional type; and many of them would be called monomania of suspicion. It is a very striking fact, in regard to the last, that nearly all pure cases of monomania of suspicion sooner or later die of phthisis."

CASE No. 1189.—A young woman, nineteen years of age, was admitted to the hospital November 12, 1893. She was feeble and exhausted, and was easily confused when attempting to answer questions or to discuss her condition. Physical examination revealed consolidation of the right apex, a cavity in the left apex, and an open sinus from the sternum. The cause of her disease was said to be tuberculosis. Patient remained fairly quiet until about three weeks after admission, when she became restless, apprehensive, and suspicious. She wept a great deal, argued and disputed about trifles, and was incoherent, and at times unintelligible, in conversation. She removed the dressings from her wound. Her respirations were accelerated, and at times there was increase in temperature. She complained about her treatment, and resisted the care of her nurses, speaking indefinitely of her fear that she was being injured, that her trinkets and clothing were stolen from her, and she manifested the greatest degree of apprehension. A month later she became more quiet and settled, but she spent the greater part of her time in bed. Her excitement subsided and there were no indications of cough or further active process in the lungs. This improvement has continued, and at the present time she is cheerful and rational, entirely recovered from her mental disease, and is steadily gaining in weight.

Constitutional Diseases.—In his discussion of diabetic insanity, Dr. Clouston[2] naïvely remarks: "The psychology of most bodily diseases is yet to be written. One has a faint hope that the clinical study of mental diseases by students of medicine may so familiarize their minds with mental symptoms, that they will be more on the alert to look for them in their ordinary practice than they would otherwise have been. When they are looked for by those who know how to observe and name them, they will be found. The whole history of medicine is one long tale of finding things when they are looked for."

CASE No. 1007.—The patient, a married woman, aged fifty-six, a native of Canada, was admitted to the hospital May 11, 1893. No history accompanied her. The medical certificate stated that she had been violent, dangerous, destructive, and excited, and homicidal during paroxysms; she had said that her neighbors were all her enemies, that she was continually the object of their persecution, and that she had lost all her property; that people surrounded her house at night, peering into her windows, and otherwise annoying her. Physical examination revealed fair strength. No marked

[1] Dr. J. B. Ransom: Tuberculosis in Prisons, read at the Congress of National Prison Associations, held at St. Paul, June, 1894: "A year prior to my taking charge of the medical department of Clinton Prison, the mortality rate of the institution was upon the daily average 3 $^{41}/_{100}$ per cent. from all causes, while for the year closing September 30, 1893, it was $^{87}/_{100}$ per cent., showing a marked decrease. At the same time there was an increased mortality from tubercular disease, and, in spite of all efforts that have been put forth and which have proved so efficient in lowering the death-rate from all other diseases, have completely failed to proportionally lessen the advance of tubercular disease. The mortality from this disease was numerically small, but as a percentage large. . . . An examination of prison mortality statistics of this State, computed upon my estimate, would show that the percentage of deaths from tubercular disease prior to 1880 was less than forty per cent., while since that time it has steadily increased until 1890, when it reached a percentage of over eighty."

[2] Pathology of Mind, p. 113. [3] Insanity and its Treatment, p. 56.

[4] Discussion on Relation of Tuberculosis to Insanity. American Journal of Insanity, July, 1888, vol. xlv., p. 87.

[1] Clinical Lectures on Mental Diseases, pp. 328 et seq.

[2] Ibid., p. 412.

objective symptoms. Glycosuria was determined, and the patient was placed upon anti-diabetic diet. She improved rapidly under this course of treatment, and in four months the sugar disappeared from the urine

Case No. 1007					Urinalysis	
1892	QUANTITY IN 24 HOURS	SPECIFIC GRAVITY	REACTION	ALBUMEN	SUGAR	REMARKS.
June 10	?	1048	Acid	No	Yes	Microscopic examination negative.
	fl.oz.					
" 11	36	1048	"	"	8¼%	1440 grains of sugar.
" 12	30	1048	"	"	6⅔	960 grains. Microscope shows large number of small white globes in clusters—calcium carbonate.
" 13	48	1043	"	"	6⅓	1536 grains.
" 14	30	1048	"	"	8¼	1200 grains. Anti-diabetic diet ordered.
" 17	42	1028	"	"	3⅛	630 grains.
" 20	30	1025	"	"	Yes	
	c.c.					
" 22	1440	1025	"	"	"	
					gms.	
" 23	850	1021	"	"	7.3276	
" 24	1000	1021	"	"	6.25	Microscope shows urates and uric-acid crystals.
" 25	950	1019	"	"	Yes	
" 30	680	1021	"	"	6.3	High color and strong odor. Large amount of urates, uric acid, and calcium oxalate.
July 2	1200	1022	"	"	(1%)	
" 4	980	1031	"	"	3⅛%	Heavy cloud due to urates and mucus. Ate bread; sugar increased; exacerbation of nervous symptoms.
					gms.	
" 10	900	1017	"	"	0.0083	Urea 331¾ grains.
" 13	1150	1016	"	"	0.008	Urea 410 grains.
" 18	950	1018	"	"	Trace	
" 21	650	1018	"	"	Trace?	Urea 220 grains.

and she was discharged from the hospital, recovered from her insanity.

CASE No. 590.—The patient, a married woman, aged thirty-three, a native of Canada, was first admitted to the hospital March 7, 1892, and was said to have been insane for ten weeks, the attack having followed epidemic influenza. She was debilitated and melancholy, but improved rapidly under tonic treatment, and upon May 30th appeared entirely rational and bright, and was discharged from the hospital.

Upon July 11, 1892, she was readmitted to the hospital. Her husband stated that she became excited at the time of her previous discharge from the hospital, while on her way to the train, and that she had been threatening and violent during her residence at home. She expressed indefinite ideas of persecution, saying that her neighbors came into her house and seized knives, and she acknowledged that she had been frightened by them and incited to commit acts of violence. As her husband turned to leave the building, a circumscribed area of baldness was seen under his thick hair, and upon the suggestion afforded by this the wife was placed upon treatment of potassic iodide and bichloride of mercury. She improved steadily, gained rapidly in weight, and in the following February was discharged recovered. She has since remained at home.

Imperfect and fragmentary as are these records, they point with unerring directness to the common basis of mental and physical disease, admitting for the brain no exception from the general laws of the organism, and recognizing no fundamental distinction between its mental and its motor, sensory, and trophic functions. Receiving peripheral impressions, it organizes, adjusts, and reflects them, toning and completing the clinical picture. Is there one among us so bold as to claim that he alone has mastered its tints, its lights, and its shadows?

Garbage Disposal in Birmingham.—In his work on "Municipal Government in Great Britain," Mr. Shaw thus describes the means employed for the disposal of garbage in Birmingham: Each house is also supplied with a specially designed ash-tub for kitchen garbage and other solid refuse as well as ashes; and the contents of these are emptied into a box attached to the van that removes the "pans." The whole work is organized by districts with perfect system. There are several receiving-stations, all located on canal wharves. The coarser garbage is consumed in furnaces, of which there are about fifty in operation. The fine contents of the ash-pits are mixed with a portion of the contents of the closet-pans, forming a fertilizer that is removed by canal-boats and sold to farmers. But most of the material from the pans is made into a dry, powdered fertilizer by evaporation in special machines. The heat derived from the burning garbage suffices to work the evaporating machines. The "poudrette" fertilizer is sold at $30 a ton. The residuum of the incinerated garbage is a mass of "clinkers," useful for concrete or mortar, for road-making, or for filling low ground. The Health Department makes large use of the canals that radiate from Birmingham, and owns thirty or forty capacious canal-boats, which are in constant use for the removal of fertilizers and other final products of the sanitary works which deal with the cleansings and refuse of a great city. All in all, Birmingham has evolved a most complete and satisfactory system for the public management of every form of waste material—a system adapted in all its parts to the actual conditions of the place.

The Hospice Salpetrière, made famous by the names of Pinel, Esquirol, Trélat, Vulpian, and Charcot, was first established in a building that had been originally a factory of saltpetre, whence its name. The buildings were first converted into an arsenal, and then in 1653 set aside as a home for aged and indigent women. In 1684 a prison for the detention of prostitutes was built in the centre of the grounds. A century later this building was turned into an asylum for the incurably insane. In 1862, when Charcot first became attached to the institution as chef de service, the population of the Salpêtrière was about five thousand.

An Annual Census of the city's population is much needed, according to the City Health Department, and the Mayor has been asked to arrange that one be made.

DYSENTERY.[1]

By W. C. WEBER, A.B., M.D.,
CLEVELAND, O.

DYSENTERY, one of the great epidemic diseases of the earth, is said to have killed more men in armies than have powder and shot, and is more fatal in the tropics than cholera. This, a disease of the large intestine, assumes a number of forms, but is essentially an inflammation of the membrane, and is characterized by frequent stools, tormina, and tenesmus in the early stage.

While most prevalent in hot countries, sporadic cases occur in all climes, and under favorable conditions the disease may become epidemic. But wherever the newer sanitary ideas have been put into practice and the teaching of bacteriology observed, there dysentery has diminished in all its forms. This statement is strengthened by the experience of many hospitals; let it suffice to refer to Montreal General Hospital, in which 150 cases were treated during the ten years ending in 1879; in the succeeding decade there were but 31. In the United States it has been epidemic a number of times, notably during the Civil War.

The acute catarrhal form in this climate is most prevalent in the summer and autumnal seasons, and while the exact mode of its production is not thoroughly known, it is probable that decomposition of animal and perhaps vegetable matter plays an important part. Not that the process of decomposition is so much the causative agent as the micro-organisms developed by this process. Sudden changes in temperature seem to wield a greater influence in bringing on an attack of dysentery than do moisture and alleged impure water.

Dyspepsia and constipation are conditions which predispose to the disease, stress being laid especially on the latter. It is a well-established fact that in all regions where malaria abounds the disease under discussion is most common, and it is very probable that the conditions which give rise to malarial fever are similar to those concerned in dysentery.

Pathological Changes.—The lesions are situated in the large intestine and occasionally in the ileum. The mucous membrane is swollen and injected, and sometimes is covered with blood-stained mucus. An important feature is the enlargement of the solitary follicles; these project conspicuously from the membranes, and in the more prolonged cases the follicles suppurate or are capped with necrotic tissue. When these break down, the colon is studded with ulcerations. In children the disease sometimes takes the form of an acute follicular colitis. Sometimes the inter-follicular spaces also become necrosed, and then the whole mucous membrane presents vast areas of ulceration.

Essentially the pathological changes in the chronic form of the disease are the same as those described; usually the submucous and muscular coats are thickened, thereby decreasing the lumen of the intestine, but seldom producing stricture. Ulcers in this form are generally present and cystic degeneration of the glandular structure may occur. Pulmonary and renal complications are also said to be frequent.

The amœbic form of the disease is distinguished chiefly in that the amœbæ coli are constantly present in the evacuations, and that abscesses of the liver are frequently concomitants or rather sequelæ of the affection. In other respects this variety does not differ pathologically from those before mentioned; and inasmuch as this type is a disease indigenous to the tropics, we will dismiss it with this mere reference and turn our attention for a few moments to the diphtheritic variety. This is much more severe than the simple inflammatory form; it is characterized by an exudation of fibrin, pus-cells, and blood on and through the mucous membrane, which in time sloughs, and results in loss of tissue; when this destruction involves the greater portion of the large intestine, death is inevitable; or when the deep structures are included in the morbid process, peritonitis and agglutination of the intestinal coils may take place. It should be noted that diphtheritic dysentery is in no way related to diphtheria of the throat; it receives its name on account of certain resemblances to the pharyngeal disease.

The diagnosis of acute dysentery, as a rule, presents no difficulty; the premonitory symptoms are griping abdominal pains, frequent alvine evacuations, and tenesmus. The stools soon become covered with mucus or a muco-purulent secretion, and not infrequently are streaked with blood. Fever and thirst and sometimes headache may be symptoms. This rapid drainage soon renders the patient very weak, when, coincident with the discharges, profuse sweating may occur, and even syncope has been known to follow within a few hours of the initial attack. The evacuations in a short time lose their feculent character, and then almost entirely consist of mucus, epithelial *débris*, and blood.

The chronic form differs from the acute more in intensity in the latter, perhaps, than in any other respect. It may be mistaken for various chronic diarrhœas; this error can usually be avoided by eliciting the history, which in the great majority of cases reveals the fact that the chronic was preceded by an acute attack. Fever is absent; periods of intermission and at times constipation alternate with the diarrhœa.

Anæmia and emaciation are sequelæ, unvarying in their presence in the later stages of the disease. Acute dysentery is occasionally mistaken for acute enteritis, intussusception, or typhoid fever. The stools in typhoid are not as frequent, but generally larger, thin, and "like pea-soup." The characteristic temperature curve of typhoid, the rose-spots, and epistaxis are absent in flux. In enteritis the stools are less frequent, more copious, and the tormina and tenesmus wanting. The attack of intussusception is more sudden, the pain is more constant and fixed, vomiting is the rule, and the bowel may protrude. Intussusception occurs most often in children, dysentery in adults. This seems to me to be the picture, very briefly outlined, of dysentery in its general sense, and its connection with or relation to the diseases which have been already mentioned. Let us for a few minutes consider its treatment.

Treatment.—The treatment of dysentery has undergone great changes in recent years, and it varies to-day according to the view entertained as to the pathological character of the disease. In the acute affection the object to be accomplished, doubtless, is the removal, as far as possible, of irritation and the placing of the part at rest; this seems rational, and does no violence to the particular theory one may hold in reference to etiology or the pathological alterations which occur. To carry out the former, evacuants are indicated; the drastics should be avoided; any of the mild cathartics which act promptly and effectively may be used; the saline salts in very large doses perform good service. Calomel is a favored remedy with a considerable proportion of the profession; it seems especially popular with the French, who teach that as soon as the stools contain bile they regard the case cured. It is prescribed both in large and small doses, preferably the latter, frequently repeated.

Another therapeutic agent also exhibited for its chologogue effect, and with which I have but a very limited experience in this connection, is ipecacuanha. It is administered in full and often-repeated doses, carried almost to the point of nausea; this is said by many close observers to be excellent treatment.

Having now succeeded by some of the means suggested in evacuating the intestinal tract, the next indication—that of rest—is to be observed. For this purpose opium has been the *sine qua non* for a considerable time and still holds its place with many. There is little doubt that it exerts a desirable influence in controlling pain, modifying peristalsis, etc., thus contributing much to the comfort and cure of a certain number

[1] Part of a discussion before the Cuyahoga County Medical Society, October, 1894.

of cases. But when we consider the gastric and secretory disturbances produced by opium, and when we observe that the local condition is not only not ameliorated but aggravated in consequence of the retention of the secretions and other intestinal products, it becomes questionable whether this drug should be used at all in this disease. When, for special reasons, it seems indispensable, the alkaloid should be used in the hypodermic form.

Personally, I avoid the employment of opiates whenever possible, except in cases of severe pain and tenesmus, and then only in the form suggested. Topical treatment, in the form of variously medicated enemas, are in vogue in certain quarters with varying success. Usually an astringent, such as silver nitrate, zinc sulphate, copper, etc., in weak or strong solution, according to the fancy of the adviser, is prescribed ; as a rule these are not well tolerated in the acute stage.

In the acute stage the plan of treatment which I pursue is the following : Evacuate the intestinal tract promptly by means of a mild cathartic—the salines, but more preferably the mild chloride of mercury, in minute and frequently repeated doses. This done, bismuth subnitrate, gr. xx., and salol, gr. iv., are administered combined from every two to six hours, the astringent and antiseptic action of this prescription having a pleasant sedative effect on the colon. When pain is intense and the tenesmus severe, ¼ gr. of morphia hypodermically is of much value in conjunction with the bismuth and salol. The patient should be in bed, the diet albuminous liquid, so that as small a residue as possible remains.

In the event that the treatment just sketched should fail in its purpose, which occasionally it does, as all plans of treatment do at times, I resort to lavement of the large intestine. The condition or indication which suggests the use of the irrigation is the severe straining and great discomfort in the rectal region which persist in some instances in spite of any or all internal medication. The lavement consists simply of large injections of cold water, to be retained a few minutes, and repeated when the symptoms demand it. Many times after the first flushing the former severity of symptoms does not return, when, nevertheless, it is advisable to repeat the irrigations at intervals of three to four hours. I have just stated that cold water should be employed. This point is to be emphasized ; the water from the hydrant is not always sufficiently cold for this purpose. The best results that I have ever achieved came from the effect of ice-cold water. This treatment is not as disagreeable or severe as it may appear to some ; the beneficial effects are immediate and pronounced.

The treatment of the chronic form cannot be thoroughly discussed here, the length of this paper having already extended beyond its intended limit. I will, however, mention a few of the salient points bearing on this subject. As a general statement it can be said that the proper regulation of the diet constitutes the most important part of the management. The mineral astringents, before alluded to, applied topically, are probably of more value in the chronic than in the acute stage ; of these, a strong solution of $AgNO_3$—20 to 30 grains to the pint—in large quantity is the best preparation, as originally recommended by Dr. Hare. Hot water, at 100° F., is vaunted by some as a curative measure.

In Johns Hopkins Hospital they speak in laudatory terms of warm injections containing quinia 1 to 5,000, or 1 to 2,500, especially for the amœbic variety of the disease. The constitutional treatment in the amœbic and debilitated patient is by no means of secondary importance, and should receive appropriate medication.

This brief and imperfect consideration of dysentery may serve in a measure as a general guide, and may, we hope, lead to a more thorough discussion of the subject by the members of this Society.

OSTEOPLASTY FOR RELIEF OF SYMPTOMS CONSEQUENT UPON HERNIA OF THE BRAIN RESULTING FROM FRACTURE OF THE SKULL WITH LOSS OF BONE.

By AUGUSTUS C. BURNAYS, M.D., M.R.C.S., Eng.,

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Reported by HOWARD CARTER, M.D.,

FIRST ASSISTANT ; LATE SENIOR ASSISTANT AT THE ST. LOUIS CITY HOSPITAL.

The following case was operated upon at a clinic given at the Rebekah Hospital of the Marion Sims School of Medicine at St. Louis, Mo., as a compliment to the members of the Mississippi Valley Medical Association.

The patient, Edwin A——, aged twenty-one, white, male, occupation jockey, was thrown from his horse while riding a race on July 27, 1893. When on the ground he received a kick upon the head from another horse, producing a depressed fracture of the frontal bone. Both tables were punched in and the dura mater considerably lacerated, and hemorrhage from the dura was not severe, and no clots were found, nor was any loss of the cerebral cortex apparent. The depressed portion was almost circular and a little larger than a silver dollar. For facility in describing its location I will suppose it to be circular and inscribed within a square whose posterior edge is formed by a portion of the coronal suture, its anterior by a parallel line two inches above the margin of the supra-orbital ridge, its inner edge formed by a line parallel to and three-fourths of an inch to the left of the sagittal suture, and its outer by a line parallel thereto one and one-half inches above the temporal ridge. The broken fragments were removed and the rough edges of bone trimmed, and the external wound packed with iodoform gauze by the attending surgeon.

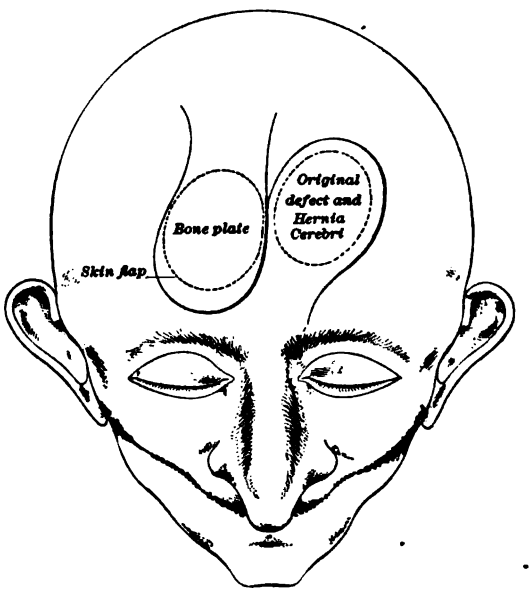

Fig. 1.—Showing Incisions around the Flaps which were transposed. (About three-fourths of natural size.)

The patient was completely stunned by the force of the concussion and remained for sixteen days in an unconscious condition.

After the return of consciousness recovery was rapid, some suppuration occurred, and the wound closed by granulation. Patient experienced a sensation of fluctuation in the region of the injury, but otherwise appeared to be in normal health. Nine weeks after the accident he was able to resume his customary occupation, which he followed without experiencing any inconvenience and with his usual success, until eight months after the first receipt of injury. He had ridden a race, and while returning his horse to the stable he suddenly felt a sensation of dizziness and almost immediately lost consciousness. He was in this condition for about ten minutes, and appears to have been dazed and confused

for the remainder of the day, but was sufficiently recovered to resume work the following day.

During a period of eight months, ten similar seizures occurred with progressive intensity; the longest interval between any two attacks was eight weeks; the greatest frequency, two in one day; the next greatest frequency, three in one week. These attacks were invariably preceded by and associated with emotional excitement and presented many characteristics of true epilepsy. Convulsive movements were bi-lateral, very severe, and confined to the upper extremities, and were accompanied with frothing and biting of the tongue. A sensation of dryness in the fauces was the only premonitory symptom, and this invariably ushered in an attack. No closer approach to an epileptic aura appears to have been present, and the return of consciousness was sudden and complete.

The liability to and frequent recurrence of these attacks incapacitated him from pursuance of his occupation, and he was forbidden to ride by the judges of the race-track.

Upon examination, the site of the injury was found to be densely cicatricial; the cerebrum could be distinctly felt and seen pulsating through the smooth scar-like skin. The portion of cerebral cortex in contact with the cicatrix was located anterior to the fissure of Rolando; the symptoms could not be referred to constant pressure. The hyperæmia caused by excitement and violent exercise unquestionably produced increased protrusion of the cerebral hernia, and the symptoms could be referred to pressure of the cortex against the bony edges of the opening through which it occurred. An operation was decided upon for the radical reduction of the hernia by transplantation of a skin-bone flap, after a modified König's method.

Operation.—The head was shaved and made aseptic by the application of a 1 to 1,000 bichloride pack, which was kept in place during the night preceding the operation. A double semilunar incision was made in the scalp, the left semilune enclosing the site of the injury and all the cicatrical tissue in connection with it, the right semilune included that portion of the frontal and right parietal bone bordering upon the sagittal and coronal sutures.

The diameter of each semilune was about two and one-fourth inches, and they were cut, one with anterior, the other with posterior convexity. (See Figure 1.) The cicatrical covering of the cerebral hernia was elevated and its edges stripped from the circumference of the opening. The scalp covering that portion of the frontal bone which was selected for transplantation was not detached from the bone, the edges only being slightly retracted to permit the free use of the chisel. A portion of suitable size was marked off and the outer table cut through with a sharp chisel, great care being required to prevent the detachment of the pericranium and scalp. A thin chisel was then inserted between the outer and inner table and gradually worked around the circumference of the gutter previously cut, gentle hammering being kept up so as to drive the chisel between outer and inner table. Owing to the large size of the graft the chisel could not be passed entirely through the diploë to the other side. The force exercised in separating the tables produced a stellate fissuring of the outer table. A small artery of the diploë was ruptured and its course clearly traced for about one-half inch. This was stripped of the attached osseous material and then ligated. Hemorrhage was at no time sufficient to interfere with or delay the operation. The detached portion, consisting of the outer table, pericranium, and scalp, was then swung round upon its pedicle and approximated to the opening in the skull, the edges of which having been first freshened with the scalpel. Considerable difficulty was experienced in handling the graft in preventing the separation of pericranium and bone graft. The cicatricial tissue and scalp which had originally covered this area were next slid over the recently denuded outer surface of the inner table, the edges being trimmed into perfect apposition. A line of continuous sutures was inserted around the edges of the entire wound, a dressing of aseptic gauze applied, and the scalp immobilized with a plaster-of-Paris skull-cap.

The patient rallied from the operation in one hour and made an entirely afebrile recovery. The edges healed by the first intention, and the transplanted bones are united to the new bed made for them over the defect. Convalescence has been somewhat delayed by the sloughing of a small transplantation of skin smaller than a silver quarter of a dollar on the forehead; otherwise the wounds have healed without suppuration and no infection has followed the sloughing. Three weeks after the operation patient attended a dance and suffered no inconvenience in consequence.

Eight weeks after the operation the granulated portion of the wound had fully cicatrized, and there is every evidence of progressive though as yet incomplete osseous union. I have good reason to anticipate a very gratifying result. The operation of osteoplastic closure of skull defects by this method is one which will undoubtedly gain a permanent place in surgery and should be practised in all suitable cases of hernia cerebri. In this case the defect is now covered by bone, and the surface shows no depression or elevation, but is perfectly normal.

Union Trust Building, St. Louis, Mo., January 15, 1895.

REMARKS ON ECTOPIC GESTATION.[1]

By FRANCIS FOERSTER, M.D.,

Professor of Diseases of Women to the New York Post-Graduate Medical School and Hospital; Gynecologist to the German Hospital and Dispensary; Consulting Gynecologist to the Lutheran Hospital, Brooklyn.

The subject of ectopic gestation is of intrinsic interest to the general practitioner as well as to the gynecologist; it renders to both the opportunity to show diagnostic ability, and enables the surgeon to demonstrate his good judgment and operative skill, sometimes under the most embarrassing circumstances. Undoubtedly during the last few years general practitioners have made considerable progress in the recognition of the characteristic symptoms, admitting thus of an early surgical interference. This advance in the diagnostic faculty has to be valued so much higher as we know that there is no sharply defined line of symptoms which can be laid down as pathognomonic of this disorder. On the contrary, this knowledge can only be attained by an attentive study of the literature on the subject, by comparing a series of cases, abstracting therefrom the most striking features.

It has become the general opinion that the life of the patient rests mainly in the hands of the family physician, inasmuch as on his early recognition of the prevailing symptoms depends in a great measure the ultimate result of the operation. As a further progress we have to note that for some time past the expectant plan of treatment has been given up almost altogether. The injections of strychnia, of ergot into the fœtal sac have become historical; the morphia injections are practised by a few of their earlier advocates. To-day we hear only occasionally of a case where electricity has been resorted to as an agent to destroy the life of the fœtus; the immediate as well as the remote danger connected with these measures have become fully appreciated by the profession.

We shall not go wrong in stating that among progressive practitioners the conviction prevails that the only way to do full justice to our patients in cases of ectopic gestation is in advising and carrying out of an early operation.

[1] Read before the Metropolitan Medical Society, New York, December 18, 1894.

Experience has shown that even cases which are apparently beyond all hope, where the excessive intraperitoneal hemorrhage has been exhaustive, are by no means so hopeless that an operative interference could not bring about a favorable issue. Proportionately to the increasing interest in the subject, we find the medical literature overburdened with the reports of cases. An ailment formerly considered of rare occurrence has become so common that every practitioner meets with such cases, every gynecologist has been called upon to operate more or less frequently. But the zeal of reporting these has been carried too far in a good many instances. It has become a general idea that all collections of blood found in the tube, or between the folds of the broad ligament, or even in the free abdominal cavity must be looked upon as the result of an extrauterine gestation. While this is true in a good many instances, there are conditions where such a statement does not hold good.

I could enumerate from my own experience a number of cases where I found as the source of hemorrhage pathological conditions in the ovary, hæmatomata, which were fully sufficient to account for the hæmatosalpinx in the closely adherent tube, an hæmatocele in the abdominal cavity, or an hæmatoma in the folds of the broad ligament. Besides, cases are on record in which sarcoma of the tube-walls caused considerable hemorrhage. We cannot, therefore, declare ourselves satisfied with an off-hand assertion of ectopic gestation in these cases; for accurate diagnosis we have to resort to microscopical examination of the contents of the wall of the tube, or the débris otherwise found in the abdominal cavity. The presence of chorionic villi or of decidual structure must be established in first line, provided that we are unable to find the fœtus.

Four years ago I reported five cases of ectopic gestation which came under my observation in private practice in the comparatively short period of about two years. In narrating these cases I ventilated the views current at the time, giving my own opinion and adding suggestions which came to me in scrutinizing these cases. Since that time I had the opportunity of operating in a fair number of cases. I will not fall back on these, but will base my remarks on five cases which occurred to me during my last service at the German Hospital, and two cases which I observed at the German Dispensary.

These last two cases I consider as specially valuable, and I will, therefore, without giving the history in full, speak on the pertinent points of interest.

The first patient came to me with the usual history. Menstruation, which was formerly regular, had been delayed several days and was very scanty in amount. She had suffered from colicky pains in the left ovarian region for several days; the pain diminished in severity gradually. On examination I found close to the uterus a mass which extended downward and backward into Douglas's pouch, the surface somewhat uneven, the consistency doughy, on pressure moderately sensitive. There was a slight chocolate-colored flow from the vagina. As this patient had been under treatment before and nothing in shape of a tumor was detected in the left parametrium, and as the breasts secreted colostrum, I only could look upon the case as one of ectopic gestation, probably tubal abortion. I did not consider this an instance of rupture of the tube, as the hemorrhage had either apparently come to a stop, or was progressing so slowly as to allow the effused blood to coagulate around the thrown-out products of gestation in Douglas's pouch. In tubal rupture we rarely hear of such a cessation occurring; smaller or larger arteries are spurting from the torn surfaces and do not come to rest until a large amount of blood has escaped into the abdominal cavity, the blood-pressure then being considerably diminished.

In tubal abortion the ovum escapes through the abdominal end of the tube, and a slow venous bleeding from the secundines in the tube is the result. Since the patient was not willing to submit to an operation and this was not imperative, and the state of health being besides a fair one, I decided to wait for further developments, recommending rest in bed. The patient has reported weekly, the tumor has decreased in size, so that to-day only a small, irregular nodular mass can be felt in Douglas's pouch.

The lesson to be learned from this case is apparently to follow the expectant plan whenever we find that the patient is not in imminent danger. Yet I would consider such a conclusion fallacious.

Although the stage of acute anæmia has been safely passed at the time, it can happen that a renewed hemorrhage may set in, putting the life of the patient in immediate jeopardy. The products of gestation, thrown from the tube into the abdominal cavity, are liable to implant themselves in the most undesirable localities.

An illustration of such an occurrence I will give in the course of this paper. The fœtal development after rupture of the sac or after abortion from the tube may proceed, exposing the patient to the dangers of an extensive operation later on, or it may come to cessation, forming in the woman's abdomen an inert mass, the destiny of which is uncertain. Under the most favorable circumstances the peritoneum will absorb the effused blood and even the ovum, the latter especially, when advanced in development, often being converted into a lithopædion. This process is naturally a slow one. The patient meanwhile, being continuously under the apprehension of an unfavorable issue, suffers both mentally and physically. But granted that absorption did take place, we still have the residue of the sac in form of a hard cicatricial mass left *in situ*. We still have to deal with the diseased tube, originally the starting-point of the trouble. Such a tube we cannot expect to return to the normal state; on the contrary, it will constitute a permanent menace to the welfare of our patient; the slightest provocation will suffice to cause it to become once more the centre of irritation. The safety of the woman is not assured as long as this degenerated organ remains in her body.

The expectant plan, therefore, cannot be considered seriously any longer. The treatment of ectopic gestation under all circumstances consists in operative interference, *i.e.*, ablation of the hopelessly diseased parts and removal of the products of gestation from the abdominal cavity. When the anamnesis and the physical examination point to the probability of ectopic gestation, I claim the operation should be performed even to the risk of being based on an erroneous diagnosis. The diseased state of the tube and likely the ovary always found in these cases warrants the laparotomy.

As to the mortality, the surgical cases compare most favorably with those treated in an expectant way; the earlier the operation is performed the less dangerous it is; it ought to be almost absolutely safe in the hands of experts. Even in neglected cases, where septic symptoms are developing, we should not desist in our efforts; we may gain by our bold interference what would otherwise be absolutely lost, namely, the life of the patient.

The second case, a woman, aged twenty-four, has gone through several early abortions; no children.

She noticed that the last menstruation was rather scanty and somewhat delayed. For two weeks she complained of constant pain in the left ovarian region. On examination I found close to the somewhat enlarged uterus a mass of the size of a walnut, apparently in the first third of the Fallopian tube. The breasts upon pressure secreted colostrum. She was under observation a full month; has been demonstrated repeatedly in my clinics as a case of ectopic gestation. Seven weeks after the last menstruation she noticed a slight bloody, watery discharge from the vagina, considerable pelvic

pain, followed by a profuse hemorrhage, which kept her in bed for several days.

When presenting herself she was still flowing. On examination I found that the enlargement, which had grown to the size of a crab-apple, had disappeared, the cervical canal was patulous, indicating that the woman had recently aborted. Undoubtedly this was a case of tubal gestation in the segment nearest to the horn of the uterus. Nature, assisted probably by the repeated examinations, has taken care of the case.

If an electro-therapeutist would have obtained control of this case, he surely could have claimed the favorable outcome as a result of his efforts. I believe galvanism can assist nature most effectively in such early cases of tubal gestation, where the products are located in the uterine portion of the tube, or the portion next to the uterus, as long as the distention of the tube has not gone so far as to force apart or to completely destroy the muscle fibres and deprive them of their power of contraction. In the first few weeks we notice even a thickening of the muscular coat, analogous to the increase of muscular element of the uterus. Galvanism then can be used with a certain degree of safety; massage may likewise be beneficial; but the moment the distention becomes excessive, galvanism as well as massage become risky procedures. This case took a most favorable termination, it is the first one in my experience where I was enabled to watch nature's efforts to my full satisfaction. Many cases are reported of a similar character, and although we must consider such an outcome feasible, I was sceptical about it, looking upon the diagnosis of such cases as an erroneous one; they may have been pregnancies, I thought, in the horn of the uterus or in the interstitial portion of the tube.

The five patients I operated upon in the hospital were, with the exception of one, the routine cases. I will not tire you with their histories, but will simply state that four were cases of tubal abortion and one of ruptured tubal gestation. All of them recovered. Where the fœtus was not found the microscopical examination of the tube cleared all doubt as to the nature of the morbid condition. It is only within the last few years that tubal abortion is recognized to be by far the most frequent outcome of tubal gestation. I regard it of so frequent an occurrence that many cases may escape observation.

In conclusion I would like to give the history and account of the operation in a case of tubal abortion that, owing to its complications, I deem of special interest.

S. G——, aged thirty-eight, married fourteen years, two children, youngest aged four; no abortions. Menses regular up to four months ago, when she passed eight days over her usual time. The bloody, watery flow was accompanied by intense pain in the right side of the abdomen, so that she had to stay in bed ten weeks. The pain did not diminish in severity for four weeks. She had a short period of rest followed by a profuse metrorrhagia, which reduced considerably the otherwise robust woman. The pain in the right side gradually became lessened, but her exhausted condition and the continuous flow forced the patient to enter the hospital.

The examination per vaginam revealed two distinct masses, the one of the size of two fists at the right side of the uterus, very sensitive on pressure, of irregular outlines and doughy consistency; a second, semi-fluctuating tumor at the left side of the uterus and closely adherent to it, filling Douglas's pouch. The uterus pushed to the right side measured four inches. Temperature 102.2° F.; pulse 110, of bad quality; constipation. My diagnosis was: extra-uterine pregnancy complicated by cystomyoma uteri.

On opening the abdomen I found a considerable quantity of old coagulated blood on the omentum and between the loops of intestines. At the right side of the uterus I found a large, greenish tumor imbedded between the intestines, bordered above by the transverse colon, to the right by the cæcum. The vermiform appendix entered this mass at the extreme right. An effort to free the same from its adhesions resulted in a tearing of the appendix both from the cæcum and the mass itself. An opening of the sac was thus caused large enough to allow a quantity of the semifluid contents to escape into the abdominal cavity. The brownish-green fluid was extremely offensive, consisting of blood decomposed by the admixture of fæcal matter. The general abdominal cavity was fairly well guarded by gauze pads, but not sufficiently to keep this unexpected flow of fetid material within bounds. Some of the liquid escaped upward, soiling the intestines and anterior surface of the liver.

Under the circumstances I could do nothing better than to free the rotten mass as quickly as possible from its adhesions with the intestine. The sac contained besides the fluid a decomposed fœtus and placenta of the third month. The remaining stump of the appendix was ligated closely to the cæcum. The considerably hypertrophied tube showed no rupture, the abdominal end being patulous. The odor from this foul liquid was so intense that we were compelled to bathe our hands in a strong solution of hypermanganate of potassium, using the same solution on pads, to wipe out the abdominal cavity. I applied a temporary tampon to stop the extensive bleeding from the denuded peritoneal surfaces. I proceeded then to remove the tumor on the left side. After considerable difficulty I was able to enucleate unruptured a large pyosalpinx containing 4 to 5 ounces of pus. I inserted gauze drains in different directions and closed the abdomen in the usual fashion. The result was a most satisfactory one. Highest temperature after operation 101.4° F.; the pulse was frequent and of poor quality for a few days, but improved under stimulation. The patient left the hospital in the usual time. I am not amiss in considering this case of interest enough to devote a few minutes to a closer analysis. I would first point to the difficulty in the diagnosis. From the statement of the patient and the prevailing symptoms, it was comparatively easy to diagnose an ectopic gestation. There was no point, however, in the history which would be explanatory of the presence of the huge pyosalpinx. This accumulation of pus could not have been of recent date, the adhesions binding the salpinx down closely to the side of the uterus were quite firm, so that I may state that the patient has carried this pus-bag for years without being materially influenced by it. I would next call your attention to the peculiar part the vermiform appendix played in this case. It is the common experience of every gynecologist to find in tubo-ovarian disease the appendix frequently bound down by pseudo-membrane in close proximity to the diseased parts. Often is the appendix itself so much pathologically changed that we are unable to say whether the ovarian disease was primary or whether secondary to the appendicitis. Although I have seen cases where the ovarian disease only could be caused by the well-marked pathological condition of the appendix, where in a cystic ovary only one cyst, being closest to the appendix, contained pus, nevertheless I would say that generally the opposite holds good, namely, the appendix is secondarily involved. In woman a peritoneal fold unites the appendix to the ligament of the ovary, which explains the easy transmission of inflammation from one organ to the other.

In this case the pregnant right tube aborted its contents into the abdominal cavity unluckily in such a way that the appendix became involved near the placental site. The consequence was a gradual erosion of its coats and an ultimate rupture, allowing the fæcal contents of the intestines a free communication with the sac, resulting in speedy death of the fœtus and decomposition of the contents of the sac.

It is further interesting to note how kindly the peritoneum took all the insults offered during the operation. We frequently see that in operations for pyosalpinx or ovarian abscess the diseased portion cannot be removed without rupture of the abscess and the escape of more or less pus into the abdominal cavity; rarely we do see ill effects to follow; the peritoneum seems to have acquired a certain tolerance for this infectious material from having been for some time in close contact with it. In this case we may assume that immunization has taken place to a certain extent, or else it would be difficult to explain that such material as fæcal matter and decomposed blood should have been borne by the peritoneum without producing the slightest reaction.

39 West Fifty-second Street.

Progress of Medical Science.

Lethal and Non-lethal Effects of Strong Electrical Currents.—Dr. Bernhardt has collected several instances of death by electricity. In one a man aged twenty-six was traversed by a current of high tension—one thousand six hundred to two thousand volts—and was found breathing stertorously a few steps from the point where he made contact. Death soon took place. The post-mortem examination, after the lapse of twenty-one hours from the time of death, disclosed two small wounds—one on the left index-finger and the other on the back—and there were large extravasations of blood in their vicinity. All the organs of the body showed hypervenous blood, acute œdema of the lungs was present, and there were extravasations into the sheath common to the carotid and vagus, along all the vertebræ, into the intercostal spaces, around the œsophagus, beneath the peritoneum, and elsewhere. The muscles of the body were in an extreme condition of rigor mortis; the heart was partially relaxed. No macroscopic changes could be seen in any part of the nervous system. Kratter thinks that the electrical shock suddenly paralyzed the heart, which was the immediate cause of death, accompanied by œdema of the lungs causing hypervenosity of the blood. There was a marked contusion on the left side of the diaphragm at the point of contact of the heart. Experiments made on animals showed that in them the respiration was usually primarily arrested, which caused asphyxia and secondary stoppage of the heart's action, though sometimes the heart was first affected. In a second case, reported by M. D'Arsonval, a man was struck with a current of four thousand five hundred volts. The current entered at his hand and issued at his back. Half an hour or more elapsed before any attempts at resuscitation were made, but on artificial respiration being practised on Silvester's method, recovery took place. Dr. Donnellan reports a case of the passage of a current of one thousand volts through a man, which instantly caused coma, dilated pupils, pallor of the face, and sweating; delirium and tonic, alternating with clonic, spasms followed. The pulse was 80. The respiration, at first stertorous, passed into the Cheyne-Stokes type. After the injection, first of morphia, and then of strychnia, the patient fell into a deep sleep, from which he awoke convalescent.—*Centralblatt für die medicinischen Wissenschaften.*

Indicanuria.—Dr. Gehlig gives the following conclusions, based upon a considerable number of observations upon children both sick and well:

1. Nurslings in good health or children fed upon sterilized milk, and not the subjects of digestive troubles, sometimes present a trace of indican in the urine.

2. If digestive disturbances occur almost always some indican is found, its quantity varying with the gravity of the affection. In chronic catarrh of the intestine, cholera, and typhoid fever, it is particularly marked.

3. In older children without digestive trouble, the urine normally contains indican. If the diet includes a high proportion of nitrogenous food (eggs, meat), indican becomes more abundant.

4. There exists no relation between tuberculosis and a more or less marked indicanuria.

Cima has published the results of examinations in 68 cases. Most of these children were fed simply on bread and milk, some on bouillon, vegetables, and eggs, and others on mother's or cow's milk.

1. Cases of clinically declared tuberculosis of abdominal or thoracic organs—10 cases. Almost all had some irregularity of digestion, and the stools were mostly liquid or semi-fluid. In 99 analyses, 69, or 69.69 per cent., gave positive reactions, while medium or very marked reactions were given in nearly half, or 45.5 per cent. In these same cases very marked reactions were obtained after some days of feeding upon a diet richer in albuminoids, or during constipation. On the other hand, the reaction was slight or feeble when the children were put upon milk or had liquid or semi-fluid stools.

2. Cases suspected of tuberculosis, with adenopathy, chronic catarrh of intestines, or intermittent catarrh of bronchi—23 cases. In 73 analyses, 75.34 per cent. gave positive reactions, or 46.57 per cent. of medium or marked reactions.

3. Cases of divers acute and chronic diseases—35 cases. In 88 examinations, 38 were without reaction, while 30 per cent. of medium or marked reaction were given for the most part by children over two years of age nourished on a mixed diet.

The conclusion from these results is that the indican reaction in the urine is more positively connected with anomalies of digestion, especially in mixed feeding, than with the principal malady. Consequently indican has no other diagnostic importance than that of indicating the degree of decomposition of albuminoid substances in the intestines.—*American Journal of the Medical Sciences.*

Tumors of the Placenta.—Dr. Edward Alin observed an interesting case of this nature in a III-para, twenty-nine years of age, the placenta weighing twenty-one ounces. In the marginal portion there was a solid tumor as large as a hen's egg, and another the size of a walnut, in the centre of the placenta. (*University Medical Magazine.*) Both tumors were made up of numerous smaller ones, varying in size from the head of a pin to a hazel-nut. The tumors could be easily distinguished from the rest of the placental tissue by their compact appearance. There were no other tumors, infarcts, or hemorrhage, or any condition which would indicate an impediment in circulation, and no inflammatory areas or signs of degeneration. The tumors were found to consist of capillary vessels, surrounded by scanty connective tissue with few cells. There was no trace of a sarcomatous structure. The endothelium of the vessels consisted of a single layer, with well-defined cells, coloring easily. The author regarded the tumors as due to hypertrophy of the chorionic villi with abundant vascularization.

A Tombstone in Burlington, Ia., has this stanza:

> Beneath this stone our baby lays,
> He neither cries nor hollers;
> He lived just one and twenty days
> And cost us forty dollars.

Photographing the Womb.—A Swiss physician has described a method of dilating the uterus by means of tents, so that by the use of a mirror a perfect view may be obtained of the interior of the organ. Not content with this, however, he is unselfish enough to desire to obtain photographs of the uterine interior in various diseases of the organ. The future of woman is sad indeed, if now her womb must not only be felt of, sounded and measured, but photographed as well.—*New York Polyclinic.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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AN ABSURD CHARGE AGAINST A NAVAL SURGEON.

THE friction between the staff and the line of the navy is again quite prominently brought forward in the forced attempt to define more directly the amenities and official relations which should exist between the two arms of the service. It seemingly involves the question whether Fleet Surgeon Kershner neglected his duty as a medical officer of the United States Navy by declining to attend to a case of sickness on board a Nova Scotia vessel at Barbadoes. The reflection cast upon Dr. Kershner by Admiral Meade, aside from the report in the matter of the Nova Scotia vessel, is characterized as gratuitous, and, in view of the fact that Dr. Kershner was reported to have been active in working in opposition to the Personnel bill, which failed to pass Congress, it is interpreted as a movement on the part of the line to "get square" with him.

The vessel in question was but a short distance from the flag-ship New York, and also near shore, when the call for medical assistance was made. The medical inspector declined to respond to the call, fearing that there might be cases of yellow fever on board the strange vessel, and that the crew of the war-vessel might become thereby infected. Again, the said ship was near shore, where an abundance of good medical service could be obtained. Although it was proved subsequently that the case was a simple one, the captain of the flag-ship very ingeniously made charges against the surgeon, on the plausible plea of want of humanity on his part, and struck a keynote which has reverberated along the upward line of condemnatory endorsement, until the papers are now in the hands of the Secretary of the Navy.

Surgeon Kershner very properly answers to the absurd charge by maintaining that one of his first and most important duties is the protection of the health and lives of the men and officers of the fleet; also, that his advice to send to shore was, under the circumstances, perfectly reasonable and eminently proper.

The charge of inhumanity is a grave one in any event, but to a medical man it is particularly disgraceful in view of the fact that the medical profession, above all others, glories in its self-sacrificing devotion to the helpless and suffering. From a sentimental side the captain poses as the high-priest of Samaritanism, and makes the best of the text in hand to read a telling lesson to the poor culprit of a medical officer.

In point of fact, however, the surgeon did his full duty in the premises. His duty as an officer of the navy is to attend to navy business. His functions as medical officer are entirely confined to the ship and the crew. His whole time and strength belong to them when he is on duty. There is nothing in the letter or spirit of naval discipline or duty that militates against this principle. The case in point was not strictly one of humanity, but of mere convenience on the part of the Nova Scotia crew, as the shore was as handy as the war-vessel. If the two ships were on the high seas and one needed help of any kind, there would be no room for any doubt as to what should be done. Plain duty would supersede even so-called questions of humanity.

It is somewhat difficult for civilians to understand the grounds upon which any charges can be made by one officer against another under the circumstances. In fact, it would appear that the captain and admiral have gone out of their way to make out a case on side issues only. It was certainly not a violation of duty by the naval surgeon not to respond to an outside call, and such being the case, the line officer has no jurisdiction in the premises to call the medical officer to account, much less to trump up the absurd charge of inhumanity to outsiders, while the medical officer was doing his best to care for and protect those of his own crew; and worse than all, to endeavor to create a public sentiment against such an officer by covertly subjecting him to the prejudiced, discourteous, unmanly, and irrelevant endorsements of his superiors of the line.

CARDIOCENTESIS AND CARDIAC SURGERY.

DR. ALLEN THOMSON SLOAN relates, in the *Edinburgh Medical and Surgical Journal*, the history of a remarkable case of cardiocentesis, and gives a history of cardiac aspiration and cardiac injuries which suggests that the heart may yet come within the domain of modern surgery.

Dr. Sloan's patient was a young woman who had had acute rheumatism following erysipelas. Endocarditis and pericarditis set in, the patient suffered great pain, and grew progressively weaker. At 8 P.M., June 13th, she had a syncopal attack and was apparently moribund; ether was injected with no effect. Aspiration of the pericardium had been suggested and the aspirator made ready, but its use was postponed because all the physicians considered the case hopeless. Finally the heart and respiration suddenly stopped. In a moment of excitement, Dr. Sloan thrust the aspirator needle into the chest in the fourth intercostal space, half an inch to the left of the sternum. To his dismay he found that pure blood immediately rushed into the aspirator, to the amount of eight or ten ounces, and then stopped. As the doctor slowly began to withdraw the needle, he noticed that the heart began to beat; more ether and one-third grain of morphia were injected, and breathing returned; and after several hours of distress and weakness the patient began to show evidences of having passed the critical stage. In fact she steadily regained strength, the rheumatism ceased entirely and at once, and in a few months the patient was practically well.

She recovered from her acute rheumatism as well as

her endo- and pericarditis, directly, as it appeared, from the aspiration of blood from the heart.

Dr. Sloan goes over the history of heart punctures and heart injuries, but finds only one case that measurably resembles his own.

In 1872, Roger, while performing pericardicentesis on a child with pericardial effusion, thrust the needle into the right ventricle and withdrew six and one-fourth ounces of pure venous blood. The boy, who was aged five, became pale, sweated, and had an imperceptible pulse.

The withdrawal of the pericardial fluid, accomplished prior to the heart injury, was beneficial; and the cardiac puncture did no permanent mischief, for the patient recovered. Death occurred five months later from long-existing dilatation and valvular disease of the heart.

Other cases in which heart puncture and aspiration were resorted to are reported by Westbrook, Dana, Colwin, Evans, Bouchut, and Fischer. In some instances temporary relief was afforded, in all no harm was done, but in none was there such a brilliant and permanent success as Dr. Sloan records. The late Dr. B. A. Watson, of Jersey City, made some experiments upon animals from which he concluded that: 1. Puncture of the heart, especially of the right ventricle, stimulates muscular contractions, and may be advantageously employed in the treatment of chloroform narcosis. 2. The best results are obtained when abstraction of blood from the cavity of the ventricle is combined with the stimulating effects produced by the entrance of the aspirator needle. 3. Puncture of the right ventricle is a safe and more efficient operative procedure than puncture of the right auricle. His reasons for this last conclusion are two. In the first place, the wall of the right auricle is much thinner, and contains less muscular tissue than the wall of the right ventricle. The auricle is in every respect a sort of reservoir for the blood. The propelling power, to a great extent, belongs to the strong muscular walls of the ventricle. There is another reason why we should not puncture the right auricle, namely, as the wall of the auricle is thin, there is more danger of blood escaping. In no case of puncture of the right ventricle was there any leakage from the interior of the cavity.

Dr. Sloan collects a great many cases of injuries of the heart, showing how tolerant this organ often is of cuts, stabs, etc.

In the "Index Catalogue of the Army Medical Museum" there are reported twenty-two cases of direct injury to the heart, all of which lived over three hours; seventeen lived over three days; eight lived over ten days; two lived over twenty-five days; one died on the fifty-fifth day; and there were three well-authenticated recoveries. Dr. S. S. Purple, of New York, gives in the *New York Medical Journal* (vol. xiv., p. 441) an account of a recovery from a wound penetrating both ventricles (confirmation of the diagnosis by post-mortem nine years subsequently), and a tabulated list of forty-two cases which survived injury for from thirty minutes to seventy days. Dr. C. E. Lavender, in the "Proceedings of the Medical Association of Alabama" (1851, pp. 104–181), reports a recovery from an incised wound of the heart; and Dr. C. L. Ford, in the MEDICAL RECORD (1875, p. 173), cites a case of buckshot injury, with recovery.

In view of all the facts the writer finally puts the question: If cardiac tapping can be done successfully by accident, are there any cases where it should be tried as a deliberate remedy? And the answer, he thinks, must be in the affirmative. In all cases of asphyxia, where the heart's action has stopped, cardiocentesis followed by artificial respiration seems the proper treatment. Thus, in cases of suffocation by drowning, accidental hanging, by carbonic acid, carbonic oxide, coal, or sulphuretted hydrogen gases, in cases even of still-birth, some good effect might follow the introduction of the needle. It is not always possible to have an aspirator ready for such emergencies; but desperate cases require desperate remedies, and a small trocar and cannula, or the hypodermic syringe, might, if used at the proper moment, have a totally unlooked-for beneficial effect. In cases of chloroform asphyxia it is worth trying, and in some cases of heart affection, of pneumonia, and even of bronchitis, where all other means have failed, and where the patient is evidently dying of engorgement of the right side of the heart, a possible chance of saving life might be lost were cardiac aspiration not attempted.

THE SALE OF PATENT MEDICINES.

THE editor of a New York daily paper stated not long since, on the authority of a manufacturer of patent medicines, that there had never been a time when the sale of these nostrums had been greater than during the past year. The editor thought the matter one worthy of consideration by physicians, though he offered no suggestions as to the course they ought to pursue to draw the public away from this cult of the kidney controller and peristaltic accelerator. Indeed, he would not be likely to do so, for the advertisements of these quacks pay the newspaper well.

The chief reason for this increased sale of patent medicines is no doubt the hard times. The people feel poor, and they think it more economical to prescribe for themselves, which they all regard themselves as perfectly competent to do, and thereby save the doctor's fee. And besides, they know these remedies are good, for they are all certified to by prominent lawyers, artists, literary men, clergymen, and of late even physicians. We have nothing to say in the way of protest against the clergymen's certificates. The writing of them seems to be regarded by many clergymen as part of their regular clerical duties, and their influence is probably no greater than that of the ordinary sermon. Literary men, too, who are often very like clergymen in their apparent ignorance of the ways of this sinful world, should not be too sternly chided for their child-like faith in the efficacy of their favorite prescription, especially as the pay for such work, compared with syndicate rates, is enormous. But the lawyer and the artist cannot be excused on the plea of innocence. When district attorneys and clever caricaturists sit down and write endorsements of the efficacy of injurious stimulants, the presumption is that they know what they are doing and why they are doing it. We do not

now recall the name of any reputable physician who has ever certified to the efficacy of any avowedly patent medicine, and we are fain to believe that there is none such; but more than one with whose names, for one reason or other, the public has become familiar, have repeatedly lent their names to help the sale of some proprietary medicine or food preparation, advertised, with certificate attached, in the daily papers as well as in the medical press. The public still has some respect for medical opinion, though not always willing to pay for it, and the certificate of one physician of prominence has more weight than one signed by the whole house of bishops or by the full bench of police justices. It is not so much to be wondered at, therefore, that all this stuff is bought and presumably swallowed by a confiding public.

But despite these pan-professional endorsements, there is little fear that this evil will continue. It is only one of the indications of the hard times, and as soon as general business revives the people will again indulge in the luxury of medical advice for minor ailments, and then the quotations for certificates from prominent lawyers, clever illustrators, and well-known physicians will fall again to approximately their true value—which is naught.

"WHEELS."

One of the curious ways in which persons of unstable mind have been popularly characterized is to say that they have "wheels in their head." The derivation of this vernacular we cannot undertake to explain. Perhaps it is because persons of nervous and excitable temperament often suffer from tinnitus aurium or sensations of buzzing in the head. The patient often feels as though he had buzz-saws or much strident and unlubricated machinery in his head. A Western alienist has been greatly taken with the wheel theory of the anatomy of crankiness, and has drawn for a daily paper the picture of the wheel in the head of an alleged insane wife-murderer. The hub is a delusion of persecution, and the spokes are his litigious, erotic, hypnotic, scientific, and other manifestations, of which the periphery is made up of systematized ideas. The picture does not speak much for the alienist's psychological knowledge, and its publication evidences still less of good taste. But it illustrates the popularity of the wheel idea of insanity. We venture to say that many people will, in a certain degree, acquire a belief that there are material things revolving in the brains of the unbalanced, and in the name of science and sense we protest against the use and popularization of psychological slang on the part of those who are supposed to be men of scientific knowledge and training.

The Craig Epileptic Colony.—The utterly unreasonable and disreputable attempt to legislate Dr. Frederick Peterson and his associates from the management of the colony ought not to be tolerated in the Legislature. Dr. Peterson is virtually the creator of this beneficent institution, and to deprive it of his guidance now would be a deplorable step.—*New York Medical Journal.*

News of the Week.

Preliminary Examination for Medical Degree.—Senator Smelzer's bill, providing that the degree of "M.D." shall not be conferred in this State unless the candidate shall have had a preliminary examination, representing, in 1898, one year's academic work, in 1899 two years' academic work, and in 1900 a full high-school course, has passed the Senate.

Hot Springs.—Within the next year Hot Springs will likely have the finest sanitarium in the country. The Knights of Pythias, five hundred thousand in number, are to be taxed $1.00 per capita, the Grand Lodge of Arkansas has donated $5,000, the city of Hot Springs has given the site, and doubtless many other contributions will be received.—*Hot Springs Medical Journal.* Hot Springs seems in need of a small-pox hospital just now.

Beriberi in Ireland.—The outbreak of a disease so oriental in nature and name as Beriberi in an Irish lunatic asylum is a very remarkable circumstance, yet it appears to be a veritable fact. The disease seems to have made its appearance early in September, and to have rapidly reached a climax in about a month. There were one hundred and ten cases under treatment in the first week of October. It has subsided with equal rapidity, and the latest accounts indicate that, with the advent of winter, new cases have ceased to appear, though some one hundred and fifty seizures, with twenty-three deaths, have taken place. The diagnosis seems to be beyond question, both the dropsical and paralytic symptoms which constitute the principal feature of the malady being well marked.

Patent Communion Service.—A Michigan clergyman thinks he has solved the individual cup problem. The Rev. Charles E. Lee, of the Second Baptist Church, Grand Rapids, Mich., has invented an individual church communion service and has had it patented. It consists of a pyramid of three disks attached to a central standard. The disks have apertures into which seventy-five tiny cups shaped like grapes repose, each holding a spoonful of wine. At the top of the standard is a ring and swivel. A long handle with a hook at the end is used in passing the standard. The hook fits in the ring at the top, and by turning the disks around the filled cups are always easily reached. As rapidly as used the cups are inverted, and there is an attachment to catch drippings. The disks and standard are made of any metal desired, and are susceptible of elaborate ornamentation. The grape cups may be of silver, gold, or china, according as a church may desire.

The Berlin Anglo-American Medical Society, at its meeting on March 1st, elected the following officers: Ferdinand C. Valentine, M.D., of New York, *President;* Earle Straine, M.D., of Fall City, Montana, *Vice-President;* and H. R. Wossidlo, M.D., of Potsdamerstrasse 117, Berlin, *Secretary* and *Treasurer.* Among the objects of the Society are the presentation of papers, interesting cases, etc., and their discussion at meetings held every two weeks; assisting those who come to Berlin for special studies in promptly obtaining

all the information and advice they need for the furtherance of their purposes, and thus saving them much trouble and valuable time. The requirements for membership are: presentation to the secretary (who must be a permanent resident of Berlin) of the applicant's passport and diploma or his matriculation card in the Berlin University. The dues are: Initiation fee, 4 marks; annual dues, 4 marks while in Berlin, and 2 marks annually thereafter.

An Epidemic of Rabies has appeared among a herd of cattle in Mankato, Minn.

Influenza in St. Petersburg.—It was estimated that there were about fifty thousand cases of grip at St. Petersburg on March 1st.

An Unsuccessful Attempt was made recently to expel a Brooklyn physician from the King's County Medical Society because, as was alleged, he published an article in a daily paper.

A Coroner's Jury on the Perils of Foot-ball.—An inquest was held at Hexham, England, recently on the body of a player, who died on March 5th from injuries received in a foot-ball match, played under Rugby Union rules, on the previous Saturday. On a verdict being returned in accordance with the medical evidence, which showed that the unfortunate man had died from the effects of a collision between his head and the hip of an opponent whom he was attempting to "collar," the jury added a recommendation that a revision of the Rugby Union rules to make the game less dangerous was necessary. With this sentiment we, says *The Lancet*, are in accord, but we should like to see the suggested revision of the rules of either code; we should like to read some serious proposals for lessening the perils of the game which had emanated from players thoroughly familiar with all the details of both codes.

Dr. G. W. Bratenahl died at his home in this city, on March 18th, aged twenty-eight.

The Medical Practice Act of Tennessee.—The Medical Practice Act of Tennessee has been declared unconstitutional. The *Southern Practitioner* says it has no tears to shed over this decision, and thinks the best thing to be done is for the Legislature to repeal the whole thing and get it out of the way.

The Passing of the "American Lancet."—With the issue of the *American Lancet* for the current month, Dr. Leartus Connor, after a service of nearly twenty-four years, retires from the editorial chair, and with his withdrawal the publication of the *Lancet* comes to an end.

Mt. Sinai Hospital.—By the provisions of the will of the late Dr. Gronhut, Mt. Sinai hospital will receive about $50,000.

A Town in the Drug Business.—Under the heading "Is this Town Going into the Drug Business?" the *Sun* recently published a letter, signed "Medicus," which with the omission of an irrelevant paragraph read as follows: "I learn from to-day's paper that the Legislature may authorize the New York Health Board to manufacture and sell 'antitoxin,' and that the Mayor has been urged by officials of the board to indorse the measure. . . . Since when is it necessary for a health board to manufacture therapeutic agents and to sell them in competition with legitimately established business concerns? And if it is right and proper that the anti-diphtheritic serum be thus manufactured and sold on a business basis by our health board, why may not the scope of this department be enlarged, and the manufacture of other medicines be engaged in? Why not also bake bread, slaughter cattle, make butter, etc.? The people certainly are in need of such supplies too, and if medicines, why not food? Good and 'health board guaranteed and made' food will prevent sickness, as 'health board serum' and other drugs will cure. Your report says that 'Commissioner Edson and Secretary Clark of the department, appeared in favor of the bill and no one in opposition.' I feel sure that if due notice of the hearing had been published, medical men and those interested in the manufacture and sale of the serum would have been there to say that the board's competition as a purveyor of the serum is not necessary, and that reliable firms are supplying all that is needed now, and at reasonable prices. Give the opponents a chance to be heard. But, above all, don't let a communistic measure, establishing a city department in business as competitor of citizens, pass and go into effect."

Dear "Medicus," the town is already in the drug business, and has been for years, so we fear your protest comes too late; nevertheless it is gratifying to find that at last one New York physician appreciates the situation, and your letter shows a distinct advance from the attitude which, ten or twelve years ago, the local profession presented when the Board of Health was empowered to engage in the production and sale of vaccine, to the inevitable detriment of certain physicians who, by their own exertions, had overcome a tremendous prejudice against animal vaccination, certainly without any moral support from the board, if not against the additional impediment of secret discouragement from individual officials serving under the board. Not only was there then no protest from the physicians of New York, but physicians even lobbied in favor of the bill, to their discredit be it said.—*New York Medical Journal.*

Quarantine Examination by Electric Light.—Our new Health Officer, Dr. Doty, has arranged to use electric light when necessary in the examination of passengers on incoming steamers. In this way it will be possible for vessels to pass Quarantine after sundown. The new arrangement will add greatly to the comfort of travellers.

The Medico-Chirurgical Faculty of Maryland proposes to secure a home for itself in Baltimore, and a committee appointed for the purpose has selected a ten-thousand-dollar house.

Private Hospital for Contagious Diseases.—In addition to the $25,000 subscribed originally for this hospital by Mrs. Minturn, nearly $25,000 more have been subscribed.

A Hospital's Doctors Resign.—The medical and surgical staff of the Alexian Brothers' Hospital, of Elizabeth, N. J., have sent in their resignations to the rector of that institution.

Society Reports.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, January 4, 1895.

HENRY F. WALKER, M.D., PRESIDENT, IN THE CHAIR.

The Treatment of the Diffuse Form of Septic Peritonitis as a Result of Appendicitis; with Cases.—DR. CHARLES MCBURNEY read the paper (see p. 385).

DR. ROBERT ABBE thought the author had adopted the best method of getting at the truth with regard to grave cases of appendicitis—that is, by giving them serious study and relating both good and bad results. He agreed with him, that the technique of the operation was coming to be better appreciated, and when carried out on the lines indicated he thought it would be possible to save a good proportion of these worst cases. The report of cases of appendicitis as they ran by the hundred, was not of great value in the present study, because so many of them were simply cases of abscess or pus which had become locked in. But where there was distinctly diffuse peritonitis the condition became so grave as to demand immediate and vigorous action in order to prevent fatal termination. Indeed, it seemed to him one of the greatest triumphs of surgery that any of them at all were saved. The report in the paper of 27 cases with 13 or 14 recoveries, gave a most wonderful result, one with which an operator could well be satisfied. Yet he had no doubt but what in time, by observing the advance which had already been made, even this percentage of recoveries would be improved upon.

On looking over the record of cases which he had seen at his office the past five years, not having had the time to examine the records of those seen at the hospital, it appeared that the number operated upon was 67, with 8 deaths. Seven of the entire number were found to belong to the class discussed in the paper, and of these 7, all of which were operated upon, 3 recovered. There was the same diffuse peritonitis, with no tumor to be felt as in confined cases, and most of them having a history of from a few hours to a day and a half. One of them was seen as late as the seventh day, that of a doctor's child with grave general suppurative peritonitis, but it was not likely the peritonitis had been general all this time. In fact, it seemed to him that many cases of general suppurative peritonitis were not so at the first, although there was a class which might fairly be called diffuse general suppurative peritonitis from the start. In the other class the inflammation was locked in, feebly confined, but after two or three days rupture took place and general peritonitis followed. These, he thought, could properly be classed among the grave cases which could to-day be saved by operation. They presented the same symptoms which the author had described, absence of tumor or even of dulness in many instances, the pus being smeared over the caput coli and small intestine, or escaping as a soapy fluid with the first incision through the abdominal walls. In two of the three cases which recovered gauze drainage was employed; in the other there was combined with it the use of a drainage-tube in the loin. Dr. Abbe still thought the tube had advantages, but it was not necessary in the majority of cases, and probably almost always should be dispensed with. He believed the gauze tamponade, introduced lightly into all pockets, succeeded best in sucking the peritoneal cavity dry and in purifying it.

In drawing out the wicks, introduced in all directions, one point had struck him as of considerable importance. Owing to their adhesion to the intestine within twenty-four or forty-eight hours, one was apt to pull unduly upon the gut and to cause the patient pain. But by twisting the gauze into the shape of a rope as it was withdrawn, it became detached, fibre by fibre, and caused much less disturbance.

Dr. Abbe thought that if bad cases were studied carefully, it would be found the result depended very much upon their care the first twenty-four hours after the operation. In his judgment the first important thing was to revive the patient from shock; then sustain him until the restorative powers could act and give the system a chance to suppress the septic infection.

One thing not mentioned by the author was valued very highly by the speaker, namely, rectal injection of hot coffee and whiskey, half an ounce to an ounce of whiskey to a teacupful of hot black coffee immediately after the operation. For washing out the peritoneal cavity he regarded salt solution as undoubtedly the best.

DR. CLEMENT CLEVELAND inquired whether Dr. McBurney and other surgeons had made use of peroxide of hydrogen in peritonitis. He had not employed it himself, but he had heard some gynecologists speak favorably of it. He had not operated for appendicitis himself, nor did he expect to, but it had occurred to him that it might be advantageous in such cases, as in certain gynecological operations, to drain through the posterior cul-de-sac into the vagina. In other operations he had never regretted having resorted to that form of drainage.

DR. W. M. POLK thought the author had struck the keynote of the situation when he resorted to gauze drainage. The fact that one could displace large bodies of intestine without doing the patient any great harm taught a lesson which should not be lost sight of in connection with this work. In women with peritonitis following labor or abortion, of which cases he saw not a few at Bellevue, the ideal procedure would be to get rid of the uterus as the surgeons got rid of the appendix in appendicitis, but unfortunately, hysterectomy under such circumstances was attended by too great shock. In view of this fact, they had found their best results were obtained when they disregarded the location of the intestine and had isolated the uterus as far as possible, by the kind of gauze-packing mentioned by Dr. McBurney, then leaving the abdomen widely open. Of course, the interior of the uterus received treatment. In abortion at the third month, for instance, the uterus was small and the intestines sank into the pelvic cavity. On opening the abdomen they were lifted up and an abundance of gauze was packed about the uterus, completely isolating it. He thought it was very important to bring all the region, the seat of the infection, under the capillary drain, however extensive it might be.

Regarding salt solution, he had been very much impressed with its efficacy, but he was not sure that it did not cause adhesions. One of his assistants had had occasion to reopen the abdomen of a patient operated upon six months or a year before, at which time there were no adhesions and the salt solution was employed. At the second operation the adhesions were as abundant as he had ever seen. He had therefore been interested to hear Dr. McBurney's statement that the salt solution caused no adhesions when used in joints, and the supposition was that there would be no risk of its doing so within the abdomen.

DR. KINNICUTT remarked upon the great pain caused by removing gauze from the abdomen, and said that if it could be avoided by any method whatever it would prove a great boon to patients.

DR. POLK had found the removal of gauze least painful when it had been introduced by the Mickulitz method.

The President, DR. WALKER, remembered that some years ago, when Dr. Thomas used the glass drainage-tube with side perforations about the size of a small knitting-needle, hernia of the intestine took place into these minute openings in one case, after which Dr. Thomas abandoned the side perforations.

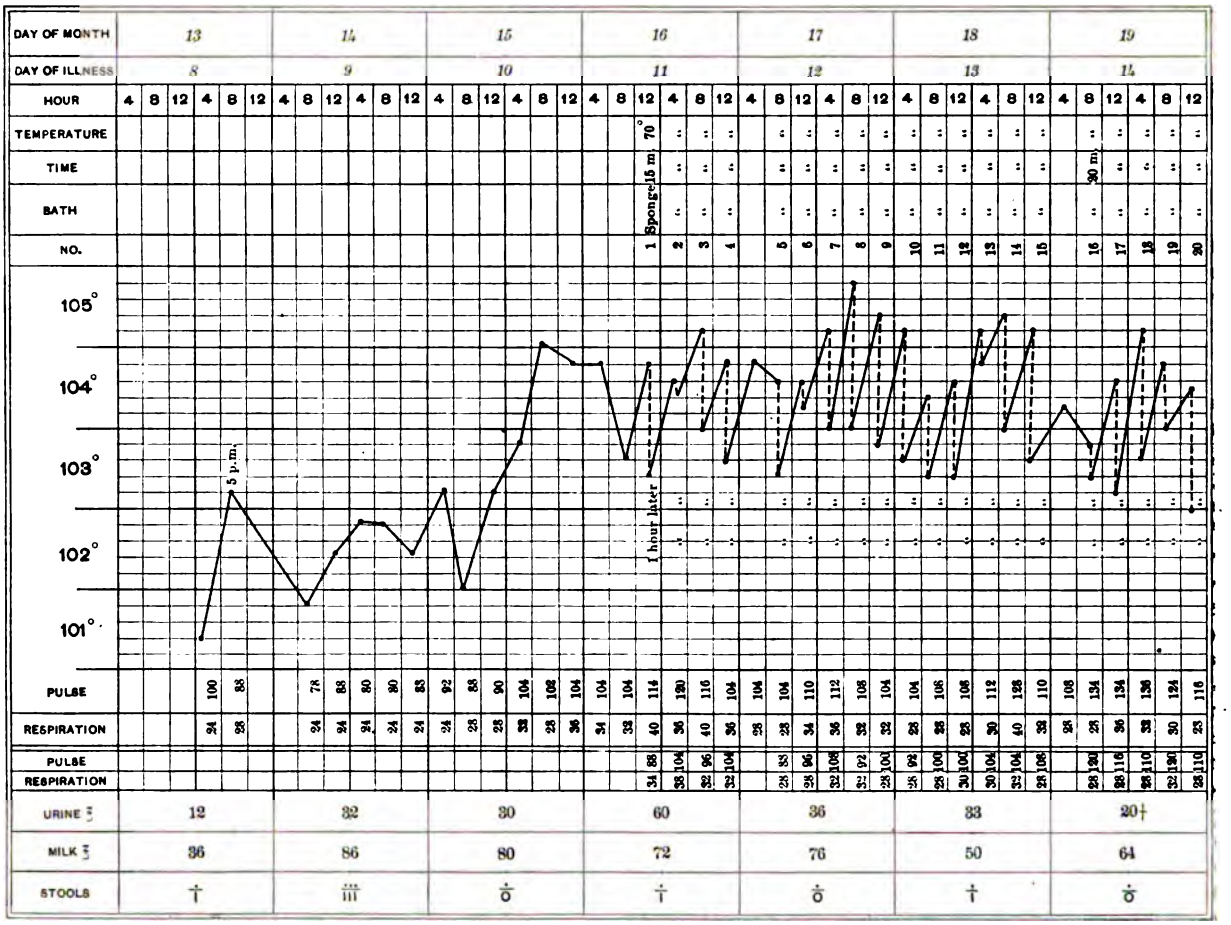
Dr. Polk inquired of Dr. Cleveland what was the salt solution used at the Woman's Hospital a number of years ago, its strength, whether sterilized, and why it was abandoned.

Dr. Cleveland replied that it was his impression it was what we call normal salt solution, but he was unable to state whether it was sterilized, or why it dropped out of use, but supposed it was for no special reason. He employed it exclusively at present in washing out the abdomen.

Dr. McBurney said he had had Frazer put up in bottles, stopped with cotton, sterilized salt of just the weight required for a quart of water, and this, he believed, was now kept in stock for the convenience of surgeons who might order it. In regard to drainage through the vagina, suggested by Dr. Cleveland, while it might be the best method in gynecological cases, he thought it was not indicated in appendicitis, since in the latter condition the tube was left in only twenty-four hours, and if allowed to remain longer did harm, causing a fistulous tract. If the suppurative process were in the pelvis he would rather drain in that direction, as suggested by Dr. Cleveland, but in appendicitis, the abdomen open, it was best to drain with gauze as had been described in the paper.

Dr. McBurney thought that a study of these cases with relation to the length of time during which the disease was apparently very simple, and then changed to a violent form, was more important than seemed to have been appreciated. His experience had been that the ugly pathological lesions had preceded by hours the symptoms which indicated them. For instance, a patient had apparently a mild inflammation of the appendix; after a time, say thirty-six or forty-eight hours, some additional symptoms became manifest, say greater pain over the lower part of the abdomen than had existed an hour or so before, the pulse became a little more frequent, perhaps there was some rise of temperature. He believed it was very common for medical men to recognize this change, but as the symptoms still remained slight, they failed to appreciate the very great importance of it. They did not realize that the change in the symptoms was due to a change in the lesion which had occurred some hours before. A patient who had a quantity of fluid run down into his pelvis did not at once have increased pain. Greater pain would not come until some hours afterward. Neither were the temperature and pulse affected at once. This meant that when such a change took place one should operate quickly, and not wait until next morning or some other time. It was delay which had been the chief cause of the fatal issue in a number of cases operated upon. It seemed to the speaker that the insidious way in which the ugly forms of appendicitis under discussion changed from a simple character to a very complicated and grave one, pointed very strongly indeed to the necessity for quick action at the very earliest point of change.

Acute General Miliary Tuberculosis.—Suppurative Arthritis.—Dr. Beverley Robinson reported the following case under this heading:

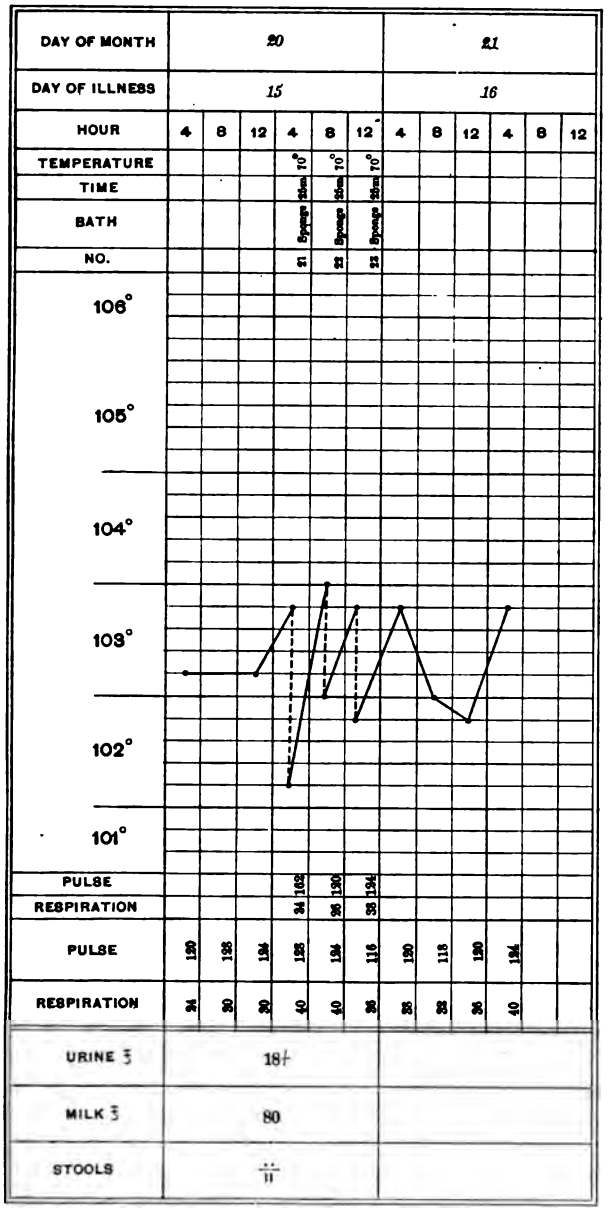


Joseph H——, aged thirty-four, laborer. Family history: Father, mother, and one sister rheumatic. Personal history: Marked alcoholic gonorrhœa a number of times, last four years ago. Doubtful syphilis. Chills and fever in Jersey seven years ago. Otherwise negative, except that patient has been drinking very hard for several months.

Present trouble began seven days ago, with pain in right knee, very severe, loss of appetite, and general malaise. Patient kept at work up to yesterday, feeling generally miserable, suffering from pain in both knees and loss of appetite. Two days ago had a distinct chill lasting an hour; yesterday had a headache, was nauseated, and felt chilly or feverish all day long. Bowels have been constipated. Chief complaint is pain in right knee and general malaise. Patient well nourished, good color. Face and trunk pitted and small cicatrices. Cicatrices on right side of neck, result of an adenitis. Heart apex fifth space inside of nipple line;

faint systemic murmur over apex transmitted a short distance to left; second aortic accentuated. Lungs, negative. Liver, dulness to one-half inch below free border. Edge felt here. Spleen and abdomen negative. Suppurative glands slightly enlarged. One or two faint rose-colored spots on abdomen and back, disappearing on pressure. Right knee rather hot to the touch, slightly swollen, patella floats. Some tenderness and pain on motion, also slight pain on moving hip. Tongue thickly coated with white fur and slightly tremulous. Pulse, regular, full, soft. Urine acid, specific gravity, 1.130; five per cent. hyaline casts. Milk diet and calomel stat.

November 14th.—Tincture of strophanthus, 5 minims, three times a day. Pain in knee and headache severe. Patient very restless.



November 15th.—Salicylate of soda, ten grains every four hours. Leucocytes, 6,000; urine acid, specific gravity, 1.030; albumin, ten per cent.; hyaline and granular casts. Hot pack given. Local application to knee.

November 16th.—Patient delirious during night and at times during day. Stop salicylate of soda. Hydrochlorate of quinine, three grains every three hours. Spleen percusses large. For sponges, see temperature chart. Bowels are constipated.

November 17th. — Urine acid, specific gravity, 1.030; albumin, twenty-five per cent., hyaline and granular casts. No Ehrlich. Right knee very much swollen; patella floats and distinct fluid were made out. Ice-bag applied. Knee is very painful and patient is restless and delirious. Nauseated and vomiting. Stop hydrochlorate of quinine. Salicylate of soda, ten grains every four hours.

November 18th.—Urine acid, specific gravity, 1.028; albumin, thirty per cent., hyaline and granular casts. Whiskey one-half ounce after sponge baths. Condition same, but delirium increasing.

November 19th.—Patient wildly delirious during night. Marked strabismus of left eye. Pupils contracted, right the smaller. Conjunctivæ congested. Skin slightly cyanotic. Pulse irregular. Leucocytes, 145,000. Patient in alternating stupor and delirium all day. Pulse, very irregular. Right pupil smaller than left. Fluid in knee found to be purulent serum. No tubercle bacilli found.

November 20th.—No change in condition. Distinct tenderness in back of neck, pain and rigidity on flexing head. Tache cerebrale present. Slight rigidity of limbs most marked on right side. Strabismus in left eye more marked. Bicarbonate of soda, ten grains, water, two drachms; lemon juice, one drachm with ice, every two hours; fluid extract of ergot, one-half ounce every four hours. Urine acid, specific gravity, 1.025; hyaline and granular casts.

November 21st.—Patient still remains delirious, his condition is no better. Knee-joint more swollen. Examination of eyes by Dr. C. S. Bull. Fundus normal in each eye. Strabismus thought to be due to irritation of left sixth nerve. Patient transferred to surgical service, where the following notes were made:

Suppurative Arthritis of Knee—Pyæmia—Acute Endocarditis — Suppurative Pneumonitis — Suppurative Nephritis.

November 21st.—Operation by Dr. Curtis. Two incisions were made, one on each side of patella, down to the joint; also two smaller incisions on posterior aspect of knee. A large quantity of pus was evacuated. The wounds were thoroughly irrigated with boro-salicylic solution. Drainage was provided for by three rubber drainage-tubes and several wicks of iodoform gauze. Iodoform gauze and bichloride dressing applied. Whiskey, one-half ounce every two hours.

November 22d.—Twitching of muscles of face and arms. Strabismus unchanged, little stiffness of neck. Entire dressing, packing, and drainage-tubes removed. Wound irrigated with boro-salicylic solution, one-half strength. Drainage-tubes cleaned and replaced. Packed with iodoform wicking; iodoform gauze and bichloride dressing applied. Urine acid, specific gravity, 1.020; albumin, five per cent.; no sugar; microscopic examination negative. Apply ice-cap. Patient extremely restless.

November 23d.—Very restless and somewhat delirious. Dressed as before. Little discharge. Pulse increasing in rapidity and somewhat weaker. Sponge for fifteen minutes at 70°, if temperature is above 103° F. Pulse weaker, more rapid, and irregular.

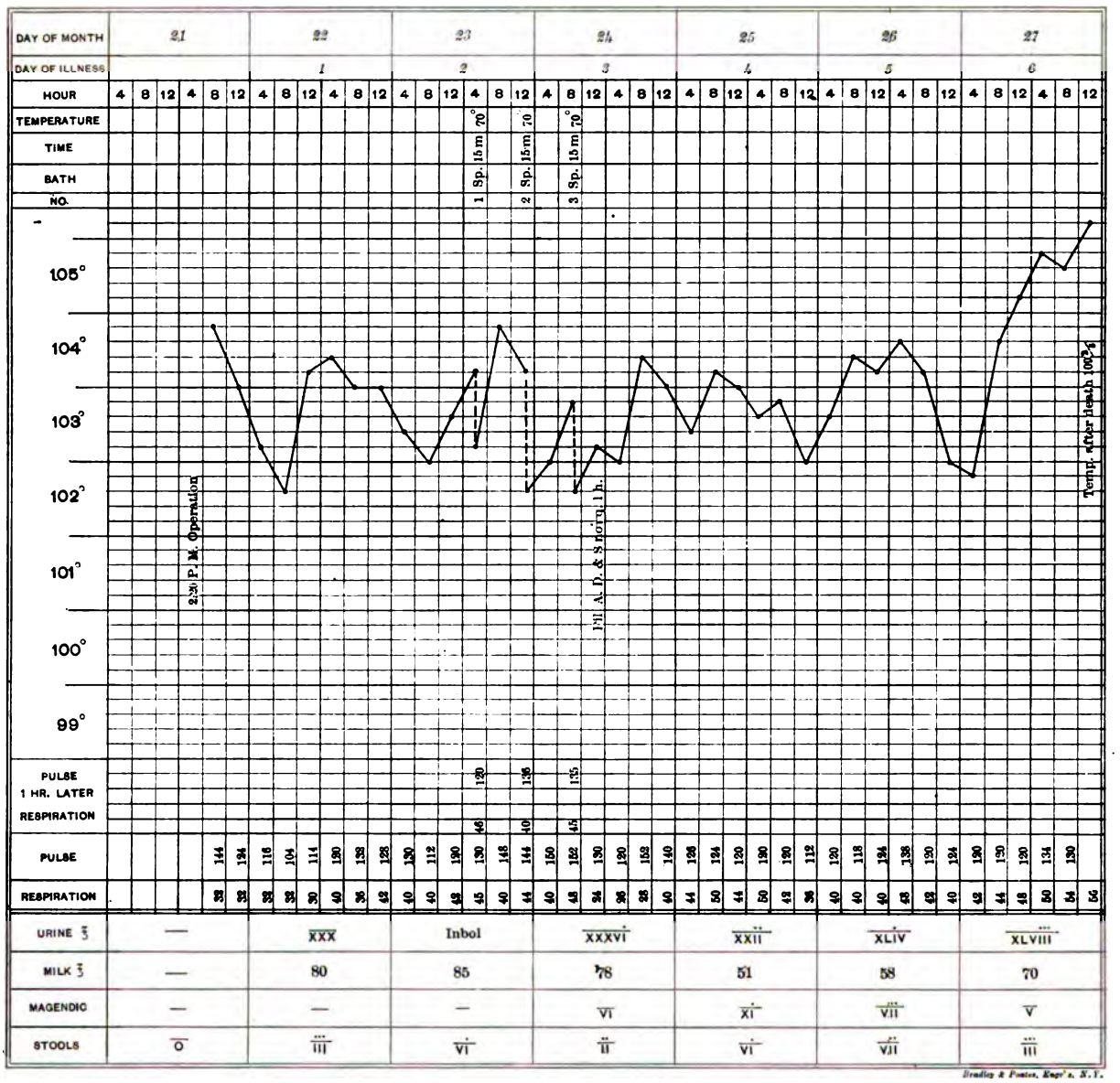
November 24th.—Patient has been restless and delirious most of night. Did not sleep at all. Whiskey one ounce every three hours. Fluid extract of digitalis five minims, hyp. stat. Trinity pill, No. 1, every hour. Stop when temperature is below 102° F. Lungs: Right, anteriorly resonance to sixth rib. Subcrepitant râles at end of inspiration, except in first two spaces. In axilla and posteriorly there is dulness beginning at angle of scapula and ending with flatness at last four inches at base. Here the breathing is feeble and there are crepitant and subcrepitant râles at the end of inspiration, with a few scattered areas of faint broncho-vesicular breathing. Lungs, left: Subcrepitant râles anterior and posterior. Posterior feeble breathing and subcrepitant râles with dulness at last three inches at base. Patient fairly rational. Vomited four ounces of undigested milk. Urine acid, specific gravity, 1.015; albumin, trace; no sugar. Leucocytes.

November 25th. — Respiration labored. Sputum streaked with blood. Cough a little troublesome.

Cups applied to chest. Usual dressing. Free discharge of pus.

November 26th.—Apex : Beat diffused over area of 2 by 2 inches. Here are heard inconstant rubbing and grazing sounds, synchronous with heart action. In left axilla there is good resonance, but many friction sounds. Otherwise signs in chest unchanged except that flatness in right posterior chest extends above angle. For past four days the abdomen has been moderately distended and tender. There is subsultus and occasional carphologia. To-day general hyperæsthesia. Strabismus unchanged. Moderate general rigidity. Usual dressing. Very slight discharge.

November 27th.—Patient much weaker and pulse feebler. Takes nourishment with difficulty. Ice-coil stopped.



November 28th.—Respiration labored and very shallow. Extremities considerably cyanosed. At 5.30 A.M. patient was very much cyanosed. Pulse almost imperceptible ; and at 6.25 A.M. patient died quietly.

Autopsy.—Frame large ; muscles well developed ; adipose fair. Heart weighed nine ounces ; recent patch of fibrinous exudation on anterior surface. Section shows normal heart muscle ; just above attachment of cusp of tricuspid valve is a pea-sized nodule containing pus, running down about an inch in the muscle of the septum ; abundant small vegetations on under surface of tricuspid and mitral valves. Lungs : Right, one pound ; left, fifteen ounces. Left congested, especially lower lobe ; few fresh adhesions in left lung and many on right lung. Many purulent foci in both lungs. Brain-pia congested and contains much serum. On section, some congestion. Gall-bladder contains pale yellow serous bile. Liver : Four pounds two ounces. Rather pale, with faint nutmeg markings. Spleen : Six ounces ; rather soft. Left kidney : Ureter and adrenal normal, also pelvis ; capsule free, surface smooth, color normal. Several purulent spots size of pin's head. On section cortex a little pale, markings fair. Right kidney the same. Meckel's diverticulum, three inches long, three feet above valve. Bladder, normal. No dictation on knee by Dr. Thacher. A large abscess ran up posterior aspect of knee-joint for about five inches.

The temperature had been very irregular, ranging between 101° and 106° F., averaging about 104.5° F.

Dr. Robinson said he had had such cases before, although not necessarily with joint suppuration ; had found endocarditis at death, and had thought he would bear them in mind and make the diagnosis in subsequent cases, but the same experience had repeated itself.

Replying to a question from Dr. Draper, he said there was no history of recent gonorrhœal rheumatism.

Dr. Draper said the temperature chart in this case suggested to him a point which he had found of diagnostic value in endocarditis, namely, an up and down temperature several times a day. It was sometimes accompanied by chill, sometimes not. Some days

there were three or four paroxysms of fever, a thing which was not usual in any infectious fever with which he was familiar.

Grape Seeds in a Healthy Appendix.—Dr. McBurney presented a vermiform appendix containing two grape seeds, removed under the following circumstances: He was operating upon a patient for abdominal tumor; the healthy-looking appendix thrust itself into view, and on feeling of it he appreciated two concretions. Thinking it wise to act in time, he removed it, and the bodies which had been felt were found to be two grape seeds. The notion had been very prevalent that grape seeds were dangerous on account of their liability to lodge in the appendix and set up inflammation. Dr. McBurney had received letters regarding this matter from various parts of the country, a recent one being from a large horticulturist in the West, who said he would be greatly indebted to him if he could state that grapes were not dangerous. Dr. McBurney had always been able to reply that he thought grapes were harmless, since he had never seen a grape seed in the concretions contained within the appendix. It had so happened that the first exception to this experience was in a case in which he had incidentally removed the healthy appendix and found within it two grape seeds.

Dr. Polk remarked that he had seen grape seeds cause appendicitis in but one case.

Dr. Biggs made some remarks upon the work of the Board of Health in producing diphtheria antitoxin for use in the city.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, February 28, 1895.

Henry C. Coe, M.D., Chairman.

Hollow Cylindrical Uterine Dilator.—Dr. A. M. Lesser presented a set of uterine dilators, made of steel, cylindrical in form, and differing from the ordinary dilator in being hollow, the object being the avoidance of forcing the uterine contents into the tubes.

Dr. S. Marx thought the instrument could have no place in obstetrics, whatever it might have in gynecology; that in obstetrics the hand was the best dilator.

Improved Tarnier Basiotribe.—Dr. E. A. Tucker presented a modified Tarnier basiotribe, or combined perforator and cranioclast. The improvement related chiefly to doing away with some screw joints in the perforator, and in substituting a metallic for a wooden handle, thus aiding cleanliness. Without raising the question of craniotomy on the living child, it was well known that there were cases in which the operation had to be performed, and this he had found to be the ideal instrument for the purpose.

Modified Ligature Carrier.—Such an instrument was presented by a gentleman who failed to give his name, the modification relating to the spring and catch attachment.

Puerperal Septicæmia; Abscess in Right Broad Ligament; Abdominal Section Followed by Recovery.—Dr. Andrew F. Currier related the case. The patient had had a normal and easy labor, and everything had gone well until the fourteenth day, when she was suddenly seized with pelvic pain which increased almost to collapse. The following day a tumor appeared in the right iliac fossa, and went on to extend over to the left side. The doctors who saw the patient diagnosed hæmatoma. She afterward suffered from violent chills, diarrhœa, loss of flesh, etc. About two months after the confinement Dr. Currier saw her, and made the diagnosis of hæmatoma of the right broad ligament degenerated into abscess. Notwithstanding the patient's extremely low condition, he ventured to open the abdomen, first in the median line, but finding the intestines firmly adherent over the tumor, he made a lateral incision above Poupart's ligament, introduced the finger, broke down material which was too thick to wash out, then irrigated and introduced two yards of iodoform gauze. By venous infusion of saline solution and stimulants the patient was saved. A hæmatoma in what appeared to be a sealed cavity undergoing purulent degeneration, was contrary to what was usually taught. It was not improbable the infection had entered it from the intestine to which it was adherent.

Unintentional Induction of Abortion.—Dr. A. E. Gallant related a case in illustration of the difficulties attending the diagnosis of pregnancy. The case was one of cessation of menses for some weeks, then hemorrhage, the recognition of an enlarged uterus whose walls were flabby—circumstances leading to the diagnosis of abortion with retention of membranes. He introduced the sound, brought away fungosities, prepared for curettement next day, but found that soon after she had returned home a fœtus had been expelled. Dr. Gallant presented Outerbridge's combined dilator and irrigator, which he had found very useful in opening the cervix and washing out the uterus after curettement.

Ligature Carrier.—Dr. A. Goelet presented a modified ligature carrier, so made that the ligature could not slip as it did in other instruments.

Double-Current Uterine Irrigator.—Dr. Goelet also presented a double-current uterine irrigator, the important feature of which was its conical form, enlarging toward the end next the handle, and thus obviating tendency to become clogged by débris.

Dr. Garrigues had given up the use of double-flowing catheters, finding them unnecessary. In obstetric cases there was plenty exit for the fluid, while in other cases one could dilate and retain the cervix open with a speculum or dilator while irrigating with a single-current catheter. Larger débris would thus escape than with a double-flowing catheter.

Cœliotomy for Puerperal Septicæmia and Peritonitis.—Dr. Charles P. Noble, of Philadelphia, read the paper. He divided cases of puerperal sepsis, or puerperal peritonitis, into two classes: 1. Those in which some pathological condition existing in the pelvis before labor was the cause. 2. Those in which these organs were normal at the beginning of labor. In the first class sepsis might exist prior to labor, or be induced by bruising of the pathological tissue, or by causing rupture of pus-sac. In this class of cases operation was indicated, and if performed prior to labor promised a high percentage of recoveries. In a correspondence with a large number of operators, only three had stated that they had operated for peritonitis due to pus-tube which had been present before labor. The rarity of the complication was probably to be explained by the fact that few women with a pus-tube became pregnant.

The second class, those in which there had been no preceding pathological condition, was subdivided into those in which the infection spread to the peritoneum, etc., through the lymphatics and veins, and those in which it spread through the tubes. The author knew of no positive way to determine between the two classes, but he believed that where the infection spread through the tubes, the inflammatory element was more marked, the septic element less marked, the reverse being true in the other class of cases. In the lymphatic form the peritonitis was of secondary importance to septicæmia, and operation gave little encouragement.

Simple cœliotomy with washing out the peritoneal cavity did not influence the principal seat of the trouble, which was in the uterus and pelvic lymphatics, and necessarily it could not influence the germs which had already entered the circulation. The more radical operation of hysterectomy offered but little, since by the time peritonitis had become a marked feature either the patient was so reduced that she could not with-

stand the serious shock of the operation, or was already suffering from well-marked septicæmia. If operated upon it should be at the early stage, before the occurrence of peritonitis or marked general septicæmia. Cases with less marked symptoms of general septicæmia gave better results. While cases of general peritonitis, so far as he knew, had died when operated upon, yet he thought that in localized peritonitis cœliotomy should be done the first few days, if there were not prompt improvement under other treatment. In cases presenting well-marked local lesions which could be made out on bimanual palpation, the indications for operation were more urgent than in those in which nothing could be determined by physical examination. In other words, he thought the operation should be done or rejected according to the conditions found rather than according to general rules. The prognosis from operation was most favorable in local peritonitis where the inflammatory process had become well localized, sepsis being absent, the case having resolved itself into one of pyosalpinx or pelvic abscess of some form.

What should be done in cases of infection of the birth canal when, in spite of curettement, irrigation, and drainage, the disease went on from bad to worse? Cases in which septic infection or beginning septicæmia were marked features of the absorption of ptomaïnes or micro-organisms taking place from the uterus or vagina, while cellulitis and lymphangitis were absent or in their incipiency? Some years ago treatment would have been continued by irrigation or internal medication. But in the great majority of the cases the issue was fatal. Abdominal hysterectomy had been performed by Kelly and Smith with success, while Montgomery had lost his patient, and pus was found in the uterine sinuses. Dr. Noble would defend the operation in this class of cases. Regarding the route to be chosen, he thought that in puerperal cases it was usually best to enter above the pubes.

Prefers the Vaginal Method.—Dr. H. J. Boldt agreed with the author in the main, especially with regard to the hopelessness of operative procedure in puerperal general peritonitis and septicæmia. In localized peritonitis of puerperal origin he thought no one would dispute the fact that operative interference was indicated, and for his own part he would choose the vaginal route as the one which caused least shock and offered the best drainage. Pathological conditions existing prior to labor belonged to ordinary gynecological work, and called for operation.

Opposes Operative Interference.—Dr. William T. Lusk had seen three cases of tubal trouble present before confinement, complicating the puerperium, and when to-day he looked back upon the experience, which occurred some years ago, he wondered whether the patients could not have been saved by an operation. He thought it was very questionable whether, in the usual forms of puerperal infection, operative interference was ever justified before the tenth day. As the author had stated, in general septic peritonitis the patients died anyway. In other cases, where the disease was localized, he thought it would be better to treat them in the old way; many would get well, and if an operation should be called for it could be done with greater safety after five or six weeks than during the confinement period. There were a large number of cases of so-called septic endometritis in which the infection was limited to the mucous membrane, there was fever for about a week, and the patients recovered if let alone. If, however, the curette were used, and irrigation practised frequently, as had been done, the barrier offered to the entrance of micrococci by leucocytes in the infiltrated membrane would be broken down, and general infection would result. He, therefore, opposed the use of the curette in such cases.

Pathological Distinctions Easier than Clinical.—Dr. W. M. Polk thought the strongest criticism which could be offered against the classification was that it suggested distinctions which might be accepted in pathology, but which were not easily recognized at the bedside. In opposition to what Dr. Lusk had said, he felt very strongly the need of losing no time in reaching the interior of the uterus in cases of puerperal fever, cleansing it thoroughly either with the finger or curette, and providing for ample drainage by the introduction of gauze.

Regarding further interference, it was difficult to decide clinically which cases called for hysterectomy, or at what stage. He presented the uterus removed four days ago for puerperal sepsis, but it was too late and the patient died. The treatment, then, was to attack the interior of the uterus first, and if the symptoms did not subside one was then at liberty to open the abdomen, but it should be remembered that this, as a last resort, did not promise a great deal. He had saved one patient by cœliotomy without hysterectomy, operating not later than the seventh day. In pus accumulations existing before labor operation was indicated.

Dr. H. J. Garrigues thought laparotomy would have an extremely limited field in puerperal affections. He would hardly care to take the responsibility of opening the abdomen the first two or three days, as suggested in a certain class of cases by the author. It was known that many patients with bad forms of puerperal peritonitis recovered without operative interference, and he doubted whether the surgeon could secure a better result. Some years ago he had saved seven out of thirteen cases of general peritonitis by enormous doses of opium. He believed in cleaning out the uterus, preferably by hand in fever after labor at term, by instrument after abortion and cleansing with antiseptic injections.

Dr. W. E. Porter thought a large percentage of cases of puerperal fever could be saved by early removal of septic matter from the interior of the uterus, but unfortunately the specialist was not usually called until the disease was advanced. If cœliotomy were done at all it should be limited to irrigation and drainage. Hysterectomy would cause shock out of proportion to the amount of sepsis removed with the uterus.

Dr. Ralph Waldo thought very bad cases, mentioned in the paper, would die whether the abdomen were opened or not, while others treated in time by emptying the uterus, irrigating, and draining, could be saved without laparotomy. Of course an operation was sometimes called for to remove local accumulations of pus.

Dr. Ford, of Philadelphia, impressed the fact that the source of infection varied in different cases, being, in some from a laceration of the vagina, in some from a laceration of the cervix or perineum, in others from absorption within the uterus, and it was not easy to decide when operative interference was called for. He related a case of extra-peritoneal pus collection similar to Dr. Currier's, treated successfully by incision over Poupart's ligament.

Dr. Brooks H. Wells related a case seen by him fifteen months ago. The attending physician had delivered the patient with forceps; sepsis followed; he curetted four or five times, at intervals of five or six hours, without antiseptic precautions; the patient grew steadily worse, the temperature went up to 106° F., and Dr. Wells was sent for when she was in collapse. A mass was felt in the right side of the abdomen, and although the patient was almost moribund he decided to operate, which he did in a tenement-house. On opening the abdomen he found that the uterus had been perforated anteriorly. The vermiform appendix being unusually long, had become adherent across this perforation, thus proving a life-saver instead of a life-destroyer, in this instance. He cleansed out a collection of pus with the sponge and introduced gauze, and to his surprise the patient recovered. The right tube, which had lain over the abscess, was perfectly normal.

Dr. E. A. Tucker said that his experience had shown the wisdom of Dr. Lusk's remarks. Out of about four thousand cases of labor which had passed under his observation, there had been puerperal fever in 150 or 200, and he could recall not more than one in which laparotomy might possibly have been done with benefit. Later operations for pus collections, say a month after labor, should not be spoken of as cœliotomy for puerperal sepsis.

Dr. Currier remarked that most cases seen by gynecologists had previously been treated by the general practitioner, and were not very recent, yet he thought they should not be excluded from consideration as puerperal cases. There was such a variety of conditions that it was not easy to make exact classifications, yet he thought three main types might be recognized: 1, Cases in which the infection was limited practically to the uterus; 2, those in which it had extended into some neighboring structure, but was limited; 3, those in which there was diffuse peritonitis. Laparotomy was excluded in the first variety, was to be considered in the second, was hopeless in the third. Local pus collections should be removed.

The Chairman, Dr. Coe, did not think the author had intended to raise the question of curettage and irrigation. Of course, Dr. Coe said, everybody resorted to those measures. He had not arrived at the stage where he would remove the uterus, although he had been tempted to do it twice. There were a good many cases of pus collection the first week after childbirth, and he would not exclude them from consideration as puerperal cases, as he had understood Dr. Tucker to suggest. In one instance he had emptied a pus collection which had extended up to the umbilicus the first week, and in another instance where he had found it under the lower rib. He supposed the author had not intended to limit the term cœliotomy in this discussion to median incision.

Dr. Noble, in some concluding remarks, said that if after curettage, douching, and putting in gauze, the patient went on to get worse for twelve or twenty-four hours, the septic symptoms becoming more marked, he thought all would acknowledge that the case would terminate fatally unless something more were done, and it was under those circumstances that he would perform hysterectomy. Peritonitis and general septicæmia had not yet become marked. The chances for the surgeon to win laurels were not great, but operation gave the patient about the only chance.

Clinical Department.

REPORT OF A CASE OF SEPTIC POISONING FOLLOWING THE USE OF ANTITOXIN.

By EDWARD J. WARE, M.D.,

NEW YORK.

In the Medical Record of January 19, 1895, an article by Dr. A. Seibert, gives an account of the toxic effects of antitoxin treatment which are so very similar to those occurring in a case of my own, and yet having some points of marked contrast, that I deem it of interest to note them.

The patient, Elizabeth B——, aged three years and four months, had not been well for two weeks previous to the present illness—having had a persistent cold and so-called "bilious condition," with clay-colored stools, loss of appetite, and general malaise.

On December 21st, the child was constipated and had fever. She was first seen by me December 22d. Temperature, 103° F. (groin). Child peevish and somnolent; tongue coated; some pallor and loss of appetite. No swelling of the glands, and the throat absolutely clear and hardly injected; some coryza; no fetor to breath.

December 23d.—In the morning slight deposit on left tonsil. Glands of neck slightly swollen. Temperature, 102½° F. (groin); afternoon temperature, 103½° F. Child restless and depression marked. Ordered tincture of chloride of iron and whiskey in full doses.

December 24th.—Deposit decidedly more marked on both tonsils, and decidedly diphtheritic in appearance. Some albumin in urine. Temperature, 102½° F. At 8 P.M., 11 c.c. Pasteur's serum were injected in loin.

December 25th, 8.30 A.M.—An injection of 10 c.c. serum was given. In afternoon, temperature (axilla) 98° F. The throat gradually cleared. Temperature was uniform at 98° from December 25th to 30th. Swelling of glands diminished—albumin was disappearing.

December 31st.—Throat was practically clear and convalescence appeared to be established. Pulse ranged from 96 to 106. Iron and whiskey were continued throughout.

January 5th.—In afternoon, temperature was 99.6° F., and there was slight swelling of glands on left side of neck behind sterno-mastoid muscle.

January 6th (thirteen days after injection).—Glands were swollen on both sides of neck in corresponding location. Temperature, 101.4° F.; pulse, 112. A discrete eruption of raised, flat papules appeared on buttocks. They were of rather dusky-red color, closely resembling the eruption caused by antipyrine. There was no rigor; there was, however, some stupor, somnolence, depression, and loss of appetite. Child complained that eruption hurt, which probably would be better described as itching or burning. There was, also, a general hyperæsthesia of the whole surface; but no distinct joint swelling or pain as in Dr. Seibert's case. The temperature ran to 102.2° F. (its highest point), with pulse of 145 and respirations of 33.

January 7th.—Temperature ranged from 99.9° to 101.8° F. Pulse, 118 to 130; respirations, 28 to 32. The rash next extended to thighs, legs, and feet; then attacked the hands and arms, face and neck; lastly extending from buttocks on to the back, abdomen, and chest. It was more marked on back and chest, and was generally discrete in distribution, although there was coalescence at times, with large, white, clear areas, such as we see in measles. The general appearance varied but little. The papules were large—flat and raised—varying in size from that of end of slate pencil to the size of a silver three-cent piece or larger. The color was dusky-red. There were no vesicles or pustules. The hands, forehead, arms, and face showed considerable œdema. During all this time the throat remained perfectly clear, and there was never a suspicion of return of the exudate. The urine was almost completely suppressed and the amount of albumin much increased. This was relieved by cupping the loins and the use of the hot pack.

January 8th.—The temperature ranged from 99.8° to 102° F.; pulse, 104 to 122.

January 9th.—Temperature from 101.2° to 102.2° F.; pulse, 118 to 130.

The rash lasted from three to four days. The first papules appeared on January 6th, and the skin was practically clear on the 10th. As each new crop appeared there was a rise of temperature.

January 10th.—Temperature at 1.50 A.M. was 101.2° F.; at 8.45 A.M., 98.2° F.; at 1 P.M., 98° F.; at 7.40 P.M., 96.2°. At this time (7.40 P.M.) pulse was 100, fair in quality. Second sound of heart very indistinct; feet and hands cool; ordered whiskey, ammonia, and hot beef extract.

January 11th.—Temperature ranged from 97° to 97.6° F.; pulse from 96 to 106. Ordered tinct. nux vomica one drop every four hours; increased to two drops at 2 P.M. Pulse somewhat better and sounds clearer.

January 12th.—Temperature, 97° to 97.4° F.; pulse, 99 to 102.

January 13th.—Temperature reached 98° at 5.30 P.M., with pulse of 100. General condition about the same.

January 14th.—Temperature ranged from 97.2° to 97.9° F.; pulse, 80.

January 15th.—At 9 A.M., temperature dropped to 96.2°, with cool extremities; some pallor and depression. At 10.30 A.M. temperature was 96.4° F.; at 12.45 P.M., 97° F.; at 3.15 P.M., 96.4° F. From that time on it ranged from 97° to 97.3° until 9 A.M. on the 17th, when it again touched 98° F. At 6.30 P.M., temperature was 98.3° F.

January 18.—At 4.30 A.M. temperature was 97°, and from then on ranged from 97° to 98° F. On the 19th, at 4.45 P.M., it reached 98.2°, and from then on resumed normal.

These temperatures were all taken by axilla, the thermometer being left in position for fully ten minutes. This was done because it was found practically impossible to take it by rectum, as it caused too much disturbance.

On December 25th the child's mother had slight deposit on left tonsil, with slight chill and temperature. On December 26th there was also deposit on right tonsil. On that date 15 c.c. of serum were injected, and on the 27th 10 c.c. were injected. She was also ordered tinct. ferri chloride and whiskey, and irrigations with hot boracic-acid solution. Five days after the first injection she had an eruption appearing first on the toes and feet, and afterward on the hands and arms. This was described as being in wheals and welts, intensely itchy, burning, and stinging. It always appeared at night, and was so faded, or practically gone, in the morning, that I never saw it. This was repeated for three or four nights. It was not accompanied by any constitutional disturbance.

The points of greatest interest were the peculiar rash appearing at such a remote date (thirteen days) after the injection, and the subsequent subnormal temperature, which persisted almost continuously from January 10th to January 18th. Also the fact that the mother's rash appeared five days after the injection, was evanescent in character, and accompanied by no constitutional disturbance.

REPORT OF A CASE OF EXOPHTHALMIC GOITRE—TREATMENT—RECOVERY.

By FRANK D. BOYD, M.D.,

SAN ANTONIO, TEX.

THE occurrence of this disease in the male is of such comparative rarity that I desire to report this case that has recently been under my care: Mr. R——, aged thirty-two. Previous to this general health was very good. First noticed mental excitement and rapidity of heart-beat in 1891, caused, he thinks, by financial reverses. He then went south to Old Mexico in the fall of 1891, and resided there a few months. Travelled over the interior of Mexico in railroad-coach and horseback at altitudes varying from five thousand to ten thousand feet without apparent inconvenience, sometimes climbing in the saddle three thousand feet in one hour's time with no unpleasant feelings. Then in the spring of 1892 he returned to an altitude of seven thousand feet and went in the banking business, and at this time he first noticed a continual nervousness, much worse at times than at others, becoming almost uncontrollable when anything unusual happened. Any mental worry would cause great nervousness. Also noticed a general decline in health. Appetite became very bad; would have bilious attacks at repeated intervals; impairment of digestion. In October, 1892, he first noticed the neck began swelling and eyeballs protruding, which reached their maximum December 1, 1892.

I was called in to see patient in February, 1893, and found him suffering from an exaggerated case of mucopurulent conjunctivitis in both eyes. I soon discovered the great protrusion of eyeballs, and on closer examination found I had a typical case of exophthalmic goitre to deal with. The thyroid gland was greatly enlarged. Pulse reached 150 beats per minute, and he was very excitable. He then told me the above history, and also of his having fallen a few weeks previous. "The lower limbs simply giving down." He is a man of very strong intellect and I had no trouble in securing a good history. He gives no family history of this trouble. His mother is still living in good health. His father died a number of years ago from other trouble. I saw that he not only needed my services, but a general physician, so he called his family doctor, Dr. F. M. Hicks, and we together have had him in charge since. The inflammation of the eyes soon subsided. The treatment consisted of iodide, hydriotic acid; infusion of digitalis; galvanism daily over the thyroid; freedom from business of any kind; complete rest mentally as much as possible, and also physically, which is very essential. The home and surroundings were very pleasant. When excitement would be very great would apply ice-bags to thyroid. Result of the treatment has been very satisfactory. There has been a general improvement in every respect. Protrusion of eyeballs greatly diminished. Pulse average beat now from 80 to 90. No excitement; very calm. Thyroid much reduced, so can button collar of shirt easily. He has now resumed work.

PERIOSTEAL INDURATION OF THE MAXILLA RESULTING FROM EXOSTOSIS OF TOOTH ROOTS.

By CHARLES G. PEASE, M.D., D.D.S.,

NEW YORK.

LATE LECTURER ON MATERIA MEDICA, THERAPEUTICS, AND PATHOLOGY, IN THE NEW YORK DENTAL SCHOOL.

I HAVE been influenced, in presenting this short paper, by an appreciation of the fact that these conditions are not fully understood by the average practitioner, who finds it difficult or impossible to make an accurate diagnosis, owing to the obscurity of the primary conditions.

The recital of a recent case to which I was called in consultation, will give a clinical aspect to the subject, far more helpful than treating of it in general.

Mr. K——, aged twenty-eight, had been under treatment for some weeks for swollen face with abscess, for which no apparent cause had been discovered. Patient had lost twenty-five pounds in flesh, had grown sallow, depressed, and nervous. No appetite. Abscess had been freely lanced.

On examination externally, I found a hard indurated tumor on a line with the lower maxilla, left side, extending from the angle of the jaw to a point identical with the six-year molar. Within the oral cavity I found an abscess discharging at a point opposite the buccal aspect of the twelve-year molar. By the use of the probe I was not able to satisfactorily determine the origin of the trouble.

The teeth were sound so far as caries was concerned, and by the use of a small piece of ice applied to the teeth separately, I was able to exclude devitalized pulps, each tooth giving the response indicating vitality. There was no soreness on tapping the teeth, and the patient had no pain or soreness associated with them either just before or during the existence of the tumor. The masseter muscle would not relax fully, but sufficiently to make examination. My interrogations were then put with reference to the history of the wisdom-tooth, and I learned that its eruption, eight years previously, had been accompanied with soreness and swelling, which signified little, as these conditions are very often present as concomitants.

Four years after eruption of the wisdom-tooth there had been a hard swelling at the angle of the jaw, which shortly disappeared. Being able to exclude all other teeth and surrounding tissues, I advised the extraction of the wisdom-tooth, which I did, and found the roots much thickened by exostosis, and at the apex of the distal root a spicula as sharp as a needle. Patient made a rapid recovery.

The writer has treated quite a number of these tumors, invariably in connection with the lower jaw. He does not think they are often found in the superior. Such chronic conditions being in the latter relation more apt to induce caries, which disease is known to be as uncommon to the lower as it is common to the upper jaw. The tumors either remain fixed in character after growing to the size of a walnut, or in very bad subjects they degenerate into abscess, and, discharging thus the offending body, correct themselves. This is possible where the septic gases of a devitalized pulp is the cause, but not in the case cited. Such spontaneous cure is, however, not common.

If the diagnostician will keep exostosis of the tooth roots in mind, especially with relation to the wisdom-tooth, it may help him in perplexing cases.

101 WEST SEVENTY-SECOND STREET.

LARGE DOSES OF MORPHINE.

BY W. A. CLARK, M.D.,

RESIDENT PHYSICIAN OF ALAMEDA COUNTY INFIRMARY, SAN LEANDRO, CAL.

THE following is the history of a case in which I failed to obtain any narcotic effect from some quite large hypodermic injections of sulphate of morphine.

Mrs. M——, aged sixty-seven, widow, no children, laundress. About two years ago was given several hypodermic injections of morphine for severe abdominal pain. Powders containing the drug were soon substituted and gradually increased, until before her death she was consuming twelve grains of morphine daily.

January 16th.—Aneurism of abdominal aorta diagnosed, and being in considerable pain, she was given the following:

℞. Morph. sulph. ..... gr. xxx.
Aqua ..... ℥ iv.
Sig.: Teaspoonful every quarter-hour until relieved.

The hospital steward being called during the night, gave the following quantities at quarter-hour intervals: One-quarter grain, hypodermatically: four grains by the mouth: two grains, hypodermatically: three grains respectively; no result.

January 17th.—Remedy repeated as before. I was called about 7.30 P.M. and found her in intense pain. I gave the following quantities hypodermatically, at quarter-hour intervals, commencing at 8 P.M.

Three grains, five grains, seven grains, in two injections, eight grains in two injections, six grains; no effect. Eight grains by the mouth was then given until 11 P.M., when the stock on hand gave out, making a total of eighty-three grains consumed in three hours, with no appreciable effect. The sulphate of morphine had been prepared by a reliable firm, one-quarter grain from the same bottle giving a full effect in another patient. I might add that she had been consuming, daily, eight ounces each of whiskey and port wine, and a quart-bottle of beer, until about two weeks before her death, which occurred January 21, 1895.

At the post-mortem examination no aneurism was found. Under the right kidney half of a hair-pin old and corroded was discovered, with considerable localized peritonitis and old adhesions.

Medical Students in France number over ten thousand. Their number has more than doubled in the past ten years.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ANNUAL MEETING OF MEDICO-CHIRURGICAL SOCIETY—SPECIAL DISCUSSION AT PATHOLOGICAL SOCIETY—TRACHEAL DIPHTHERIA—MALFORMATION OF HEART WITH HÆMOPHILIA—GANGRENOUS UMBILICAL HERNIA—LIVER AND GALL-STONE SURGERY—MICROCEPHALUS.

LONDON, March 6, 1895.

SOCIETIES are very much *en évidence* just now. On Friday the Medico-Chirurgical held its annual meeting, when the alterations in the by-laws that have been officially proposed with a view of rendering the meetings more popular, were duly passed. The president, Mr. Hutchinson, gave his annual address, in which he alluded to the losses by death during the year, and to the changes now made to adapt the society to the condition of the times. The exhibition of patients and specimens, and detailing of new facts, is among these. So is the arrangement for special discussions on topics of general interest, which might not otherwise come up in an original paper. As to these I have previously reported that the first such discussion has been already opened by the president himself, on the nervous complications of early syphilis. This debate has been adjourned until next Tuesday. Meantime another special discussion has been provided for us by another society—the Pathological. This was opened by Dr. Bertram Hunt last evening, who was followed by Drs. Hayward, Powell White, and Kanthack, when the debate was adjourned to the 19th. The subject being the "pathology of diphtheria," is of immediate interest and is being ably discussed.

At the Clinical Society on Friday, March 1st, Mr. Langton, vice-president, took the chair, saying he had been requested by the council to fulfil the duties of president until the end of the session. He gave appropriate expressions to the loss inflicted on science, on surgery, and on the society by Mr. Hulke's death, and the society passed a formal vote of regret.

Mr. E. W. Goodall related an unusual case of tracheal diphtheria in a boy aged four, who was admitted into the Eastern Hospital with faucial diphtheria. On the ninth day after admission he expectorated a cast of the trachea, and during the next week he brought up several casts of the trachea or bronchi, and several shreds of membrane. There was albuminuria lasting for about a month. At the end of three weeks from admission paralysis of the palate, ciliary muscles, and lower extremities supervened. The boy recovered and left the hospital quite well at the end of another seven weeks. The point of interest in the case lies in the fact that, in spite of the extensive formation of membrane in the trachea and large bronchi, there were never signs of laryngeal obstruction. Only during the expulsion of the largest casts was there dyspnœa. It is reasonable to suppose that in this case the larynx was unaffected. Three similar cases had come under observation. He particularly called attention to the fact that the membrane missed the larynx, though it affected the respiratory tract above and below. Some conversation followed in which the relation of such cases to plastic bronchitis was referred to. Dr. Lee Dickinson related a case of malformation of the heart in a girl aged eight, with pronounced congenital heart disease and hæmophilia, and asked how far these diseases are related. The hemorrhage could not be explained by reference to the heart trouble only. The condition of the patient was not usually met with in subjects of congenital heart disease, the child not being cyanosed while under his observations, though this was said to have been the case once or twice. There was no club-

bing of the fingers or other indication of chronic circulatory trouble. There was no history of hæmophilia in the family.

Mr. Gilbert Barling related a case of gangrenous umbilical hernia in a female, aged forty-nine, for which resection was performed and immediate union effected by Murphy's button. She was admitted to the hospital four days after strangulation commenced. On the day of admission symptoms ceased suddenly. Strangulation was by a severely constricting band which involved about five inches of small intestine, and the upper or entering portion was gangrenous at the point of constriction. The patient's general condition being good, the strangulated gut, with a V of mesentery, was removed and the divided ends of the intestine approximated by a Murphy's button one inch in diameter. Recovery was uneventful, but the button was not passed until the twenty-fourth day, two days after the patient had been allowed to get up. It gripped a ring of necrosed gut.

Mr. A. Pearce Gould commented on the curious absence of collapse in this case, and suggested that the symptoms of "indigestion" from which the patient suffered subsequently to the operation might be explained by the arrest of the button at the ileo-cæcal valve.

The president referred to the tendency of stenosis to which patients were exposed after using Murphy's button, Senn's plates, and the like. The length of the operation in such cases must necessarily have an effect on the patient's condition. He asked how long the operation had lasted. He did not agree with certain surgeons of the German school, who held that these operations did not necessarily involve any collapse.

Mr. Barling, in reply, remarked on the difference observed in the way that patients reacted to peritonitis in illustration of the curious absence of shock. He pointed out that the "indigestion" occurred on the fourth day and followed the first ingestion of food by the mouth. That was earlier than one would expect the button to have become detached. He admitted that in some cases the button sojourned in the intestine an inconveniently long time, but on the whole he thought the risk of its becoming arrested in its onward passage was slight. The operation took fifty minutes.

Dr. Hector Mackenzie related a case of hysterical contracture of the legs of two years' duration, which had been cured by massage, etc., in a young woman of twenty-three.

At the Medical Society on Monday, February 25th, Mr. Malcolm related all the cases of liver and gall-stone on which he had operated. In three of these cases death followed, but the fatal termination was the natural sequel of the diseases from which the patients were suffering, and was in no wise attributable to the operation. The other cases comprised two of multiple hydatids, and three of gall-stones removed by operation. These five cases were all successful. He suggested the following points for discussion: 1. The signs to be relied upon in distinguishing between gall-stone and cancer. 2. The possibility of gall-stones being overlooked in the ducts, and the possibility of their collecting within the liver substance and coming down after the other stones had been removed. 3. The length of time which must elapse before a patient can be considered safe against recurrence of hydatid growths. 4. Whether the presence of shrivelled daughter cysts was a sign that the cysts were undergoing retrogression, in spite of the fact that there had been no diminution in size of the cysts previous to operation.

Mr. Doran asked how long gall-stones took to form, and Mr. Lane related four fatal cases, only one of which could be referred to the operation, and he had had a long series of successes.

Mr. Henry Morris discussed the diagnosis of hydatid cysts, and thought the formation of gall-stones was promoted by anything which interfered with the formation of cholesterin or by deficiency of the bile, and which were solvents of cholesterin. He believed that stones did sometimes form after operation with astonishing rapidity, which he thought might be due to a lack of such solvents, or an excess of this product as a consequence of stagnation of the bile in the gall-bladder.

Dr. Wallis Ord and Mr. Cottrell then read notes of a case of microcephalus treated by linear craniectomy.

Dr. Shuttleworth questioned whether the case was, properly speaking, one of microcephalus, seeing that the circumference of the head exceeded nineteen inches, whereas eighteen inches was usually assigned as the limit. He himself had had under observation three cases of microcephalic idiots in whom the operation had failed to confer the slightest benefit.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 23, 1895.

	Cases.	Deaths.
Tuberculosis	54	138
Typhoid fever	2	1
Scarlet fever	121	20
Cerebro-spinal meningitis	3	6
Measles	147	14
Diphtheria	216	35
Small-pox	1	0

Morbidity in the Indian Army.—According to a recent report concerning the British forces in India, no less than fifty thousand out of seventy thousand men composing the army have been under hospital treatment within the past two years.

A Gift.—Drs. A. V. L. Brokaw and C. D. Mooney have contributed one thousand dollars toward the completion of a clinical amphitheatre in St. Luke's Hospital, St. Louis.

Alumni of Jefferson Medical College.—Many members of the class of 1879, Jefferson Medical College, of Philadelphia, are desirous of having a class reunion on the occasion of the 15th anniversary of their graduation. Owing to changes, comparatively few addresses are known, and therefore this means is resorted to with the hope that every member of the class of 1879 who reads this notice will communicate at once with their class President, Dr. Philip R. Koons, Mechanicsburg, Cumberland County, Penn.

The New York Medical College.—A short sketch of this institution was written and printed in 1883, but has only just been published. It is of considerable historical value, and especially interesting to the not inconsiderable number of graduates of this college still engaged in medical practice. The sketch was written by Dr. Edwin Hamilton Davis.

Modern Greek as an International Language.—In the "Register and Manual of Information," published by the New York County Medical Association, we are pleased to see a recommendation that Greek be adopted as the common language of science. It is suggested that the medical writers of this city officially endorse the proposition to adopt this most beautiful, most flexible, and most expressive of tongues as the means of inter-communication between scientists throughout the world.

A Statue to Lavoisier is to be erected in Paris. Many subscriptions in aid of its erection have been obtained from professors and students of German universities.

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Original Articles.

PRACTICAL POINTS IN THE TREATMENT OF DIPHTHERIA WITH ANTITOXIN—INDICATIONS AND CONTRA-INDICATIONS FOR THE SAME, WITH DEMONSTRATION.[1]

BY LOUIS FISCHER, M.D.,

NEW YORK,

INSTRUCTOR IN DISEASES OF CHILDREN AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; PHYSICIAN IN CHARGE OF THE MESSIAH HOME FOR CHILDREN; PHYSICIAN TO THE CHILDREN'S DEPARTMENT OF THE GERMAN POLIKLINIK.

ALTHOUGH the new diphtheria-healing and prophylactic remedy called serum and diphtheria antitoxin, was discovered in 1890, it took until the last year to place it on a proper clinical basis, *i.e.*, by experimental work on both healthy and sick to determine the exact therapeutic properties of the same. In Berlin, Professors Bêhring, Wernicke, Hans Aronson, and a great many others have labored diligently to give us all the data relating to the same. It was, however, necessary to study the statistics and reports of the various hospitals in order to arrive at a proper understanding of the value of the remedy. It is hardly a year ago that we found so little in literature pertaining to the same, which was chiefly owing to the scepticism of the various colleagues, owing to the misfortune in using Koch's tuberculin in 1891. To-day, however, we have about two thousand two hundred authentic cases, which have placed the remedy on its proper footing. When I was in Berlin last summer there were two kinds of antitoxin for sale: Aronson's and Behring's; both, however, were almost sold. Since that time quite a change has come, and there is at present all the antitoxin desirable in the market.

Permit me to introduce to you the various kinds of antitoxin, and also some practical points about the same.

The first publication in this country appeared in the MEDICAL RECORD, October 6, 1894, by Professor Baginsky, and in the same number also one by myself. Later, reports appeared from Dr. A. Campbell White, of the Willard Parker Hospital, who reported twenty cases in the same journal (the MEDICAL RECORD, November 17, 1895); in the same number there appeared a second article by myself. In the cases of White, Aronson's serum was used only; in the cases which I reported, I have used also Aronson's; later, however, I used Aronson's and Behring's, as Aronson's was not to be had. In the *American Journal of the Medical Sciences* for January, 1895, a very elaborate article appeared by me, describing thirty-four cases, and also a series of cases which I attended in the Municipal Hospital of Philadelphia. In that class of cases I used principally Aronson's serum, and my mortality was 5.8 per cent.

Permit me to describe a few typical cases.

CASE I.—A. G——, three and one-fourth years of age, male, was attended by me on October, 29, 1894, in the Messiah Home for Children. Examination showed hoarseness, normal temperature, regular pulse. The throat, as far as we could see, tonsils, pharynx, and uvula, was clear. No membrane was visible. I ordered isolation and expectant plan of treatment. I could not diagnose anything but acute laryngitis. The following day, however, October 30th, I again saw the child, and found the following clinical picture: Severe dyspnœa, very plain pseudo-membranes were visible on the pharynx posteriorly, and on the right tonsil. Temperature, 100° F.; pulse, 104; respiration, 82; no cyanosis. The submaxillary glands somewhat enlarged. Symptoms of general malaise. The child appeared very tired and sleepy. Stools were regular. As we here had reason to believe that we were dealing with a very early form of diphtheria and laryngeal stenosis, and as this case was one typically suited for antitoxin treatment, I sent the child to the Willard Parker Hospital, with a letter, stating that I wished this case reserved for treatment by Dr. George F. Shrady. I went to the hospital with him at 1.45 P.M., October 30th. Found temperature 100.2° F.; pulse, 130; respiration, 32. Child was injected by him with 12 c.c. antitoxin. At 2.25 P.M., dyspnœa was so severe that it was necessary to intubate the child. Soon after the breathing improved. At 3.25 P.M., temperature 101.8° F.; pulse, 140; respiration, 32; 5.25, temperature 103° F.; pulse, 160; respiration, 48. The child seemed to swallow in the regular way. The reaction following intubation disappeared slowly during the night.

The highest temperature during October 31st was 102.4° F.; pulse, 144; respiration, 44. The temperature remained under 101° F., until November 4th, on which date a small quantity of albumin was found in the urine. The quantity increased until it reached twenty-five per cent. by volume. On November 5th the temperature was 103° F.; pulse, 148; respiration, 40. On November 5th the membranes disappeared. The child coughed with a muco-purulent expectoration, which was, however, not very severe. On November 7th there were slight traces of albumin in the urine; the temperature sank to 99° F. Intubation tube was removed on November 7th, at eleven o'clock in the morning. The breathing was at once labored and it was necessary to reintubate the child in a quarter of an hour, at 11.30 in the morning. There was hardly any reaction following the reintroduction of this cannula, and the temperature did not rise above 99° during the day. On November 8th the temperature was 99° F.; pulse, 134; respiration, 32. The child seemed to feel very well during the course of this treatment, and had no emaciation, no loss of flesh, and was discharged cured. The healing was complete in this case.

Bacteriological examination of the membrane was made on October 31st, or the day following the child's admission to the hospital, and typical Klebs-Loeffler bacilli were found, proving the diagnosis of diphtheria. The child was subsequently carefully examined by me, readmitted to the Messiah Home, and here a slight form of paralysis followed, lasting in all about two months. The fluids on swallowing regurgitated through the nose. With mild form of treatment, principally strychnine and faradization, the child made a complete recovery.

Another typical case is the following: I was called in consultation by Dr. A. Kessler, on December 10th, to a boy, about six years of age, who had been attended by the doctor for several days previously, with a severe pharyngeal, tonsillar, and laryngeal diphtheria. The

[1] Paper read at the German Medical Society, March 4, 1895.

whole pharynx showed thickened membranes completely covering the throat; besides, the child appeared to be somnolent most of the time. This latter symptom proved to Dr. Kessler the severity of the case. When I saw the child, on December 10th, it was at once decided to inject antitoxin. Owing to the severity of the symptoms I decided to inject 20 c.c. of the same, using the ordinary aseptic precautions, consisting of sterilization of the skin with soap and water, followed by an antiseptic solution, and injecting the antitoxin deep into the subcellular tissue and applying a drop of collodion over the puncture to seal it. In this case, as in all cases, I did not use any massage after the injection to permit the absorption of the healing serum. All of my cases, with a few exceptions, were injected in the interscapular space, as practised by Professor Baginsky, and also endorsed by a great many others, chiefly Aronson, in Berlin.

On December 11th, the day following the injection, the temperature was

	Morning.			Evening.		
	Temperature. (Deg., F.)	Pulse.	Respiration.	Temperature. (Deg., F.)	Pulse.	Respiration.
December 11th	99.5	140	30	99	145	32
December 12th	100.2	130	26	101	124	25
December 13th	100.8	120	24	99.5	120	24
December 14th	90.5	124	24	98.5	108	22
December 15th	99	112	23	98.5	112	22
December 16th	100	108	22	100	114	22
December 17th	99	110	22	99	110	22
December 18th	98.5	102	22	....	...	..

On December 10th the child was injected by me. On December 16th Dr. Kessler wrote to me that the tonsils, pharynx, and uvula were free and clear of all visible membranes, also, that he noticed, a few days previous, the gradual melting away of the same. This child was discharged as cured on December 18th. Recovery complete. The local treatment consisted of antiseptics, strong stimulating diet; careful hygiene was also carried out. In this case a bacteriological examination of the pseudo-membranes was also made, and the report sent to Dr. Kessler showed the existence of Klebs-Loeffler bacilli, which corroborated his clinical diagnosis.

The following two cases were seen by me, in consultation with Dr. W. E. Bullard, in this city:

A child, male, four years of age, was attended by Dr. Bullard for a severe form of diphtheria. Plain visible pseudo-membranes could be seen in the pharynx, which appeared dark gray. There was a fetid smell of the breath, enlarged submaxillary glands. Dr. Bullard made a culture, sent it to the Board of Health, and received the report, showing Klebs-Loeffler bacilli. The child was so restless and hard to manage that the physician could not do anything with medication by mouth. The doctor decided to apply local applications, and even these were strenuously opposed. It remained then for Dr. Bullard to decide upon antitoxin, and the child was seen by me on December 26th, or about three days after the first appearance of the symptoms. The temperature was 99° F. The mother told us that the child had been ill a few days; had had fever, and had vomited on the day previous. The membrane, as first examined, covered the velum palati, both tonsils, and as much of the laryngeal wall as could be seen with the eye. Dr. Bullard prescribed a tincture of chloride of iron, ten drops every hour, but he is positive that the child received little or none of it. The patient continued to grow worse, the membranes were thicker and thicker, until the seventh day of the illness. When I first saw the child the temperature was subnormal, 97° F., and on the day following the injection the temperature was normal and rose until it reached 99° F., which was the highest it attained during the whole course of treatment. I injected 12 c.c. antitoxin, using ordinary antiseptic precaution, in the interscapular region, in the presence of Dr. Bullard. There was no reaction following the injection of the serum which could be ascribed to the serum itself. In the twenty-four hours following the injection Dr. Bullard noticed a red circle surrounding the membrane on the uvula. The redness increased as the membrane decreased. On January 2, 1895, which was the third day after the injection of the antitoxin, the membranes were almost invisible on the uvula and tonsils. The child's appetite improved in twelve hours after the first injection.

The second child in this family was taken ill on the same day I injected the first child, and for prophylactic reasons it was decided by Dr. Bullard and myself to inject 2 c.c. of antitoxin, to produce immunity if possible. Although no typical diphtheria could be proved, still the pharynx showed a slight milky coating, which looked suspicious. This child remained ill only about one day, and was well after that time; had no fever, and did not contract diphtheria. Still more interesting, however, in the same family, is the fact that the mother of these two children, who had been around nursing and looking after them, was taken sick with a mild infection of the throat, pain on swallowing, and what Dr. Bullard believed to be a typical diphtheritic infection. She also is well, and was cured in a few days.

The next case was attended by Dr. Krog, in this city. A child, two and one-half years of age, with a diagnosis of diphtheria and croupous laryngitis, stenosis, etc. I saw the child in consultation on January 8, 1895. At noon I found the following conditions: The child was cyanotic and had a pulse of 180; cold extremities; extreme dyspnœa. Although I was sent for to inject antitoxin, the urgency of the symptoms demanded prompt relief, which was given in the form of hot mustard foot-baths; internally, strong coffee and brandy and other excitants, besides a rapid intubation. The child's breathing was immediately relieved after the intubation, and when the child recovered from the reaction following the same, I then injected 20 c.c. antitoxin, using the ordinary antiseptic precautions, in the interscapular region. The dyspnœa was so much improved that the child immediately went to sleep. The temperature was 100° F.; pulse, 130, within one hour afterward. The appetite was good. I ordered raw scraped steak, buttermilk, and semi-solid nourishment as long as the tube was in place. The course of this child's disease was very protracted. The glands of the neck were extremely swollen, and the membranes seemed to disappear very slowly. A distinct improvement was first noticed two days, or about fifty hours, following the injection of the antitoxin. I allowed the cannula to remain five days, when Dr. Krog and myself agreed that the stenosis being so much improved, and the membranes not visible, appetite and sleep both normal, to extubate on January 11th. A careful examination of the urine, using Eschbach's albumin metre, showed five pro mille and a few epithelial and hyaline casts. A careful examination of the extremities showed no œdema of the body. This condition of nephritis lasted in all about eleven days, and also a small trachitis and cough remained, which I ascribed to the irritation and probable pressure caused by the tube, as nothing could be diagnosticated by an examination of the lungs. The child did not lose any flesh during the course of treatment, and the albumin disappeared gradually until the fourth week following the injection of the antitoxin, when the urine appeared normal. The cough also subsided, appetite returned, child slept well, and was discharged cured.

The most interesting portion is the bacteriological examination in this case. The first culture proved the presence of Klebs-Loeffler bacilli. The day on which we declared the child cured and the question of disinfection of the apartments came up, I made another culture, which again showed the presence of virulent

Klebs-Loeffler bacilli, and even seventeen days after I discharged the child as cured there still could be found Klebs-Loeffler bacilli by a bacteriological examination. In all five cultures were made, which proved the presence of Klebs-Loeffler bacilli. This, therefore, is a very important point, proving the necessity of the extremest care in the sick and the isolation of the healthy children, and especially the useless disinfection as practised to-day too early. It has been proved by a great many observers that a child should not be discharged as cured until really two distinct cultures were made on two different days, and both proved negative. The one should be made, if possible, by an officer of the Health Department, and the second should be made by the attending physician.

Dr. Ladinski was called, on November 9th, to a child about two years of age, and diagnosed tonsillar diphtheria. He sent a culture to the Health Department, which reported the presence of Klebs-Loeffler bacilli and diagnosed diphtheria. Dr. Ladinski gave the usual antipyretic and antiseptic treatment, using corrosive sublimate internally, until the child appeared to get worse. He next resorted to calomel fumigation, as recommemded by Dr. Dillon Brown in this city. The temperature rose in four hours from 102.2° to 103.6° F., and the child appeared very weakened. So I was sent for, in consultation, to use antitoxin. I injected 10 c.c. of antitoxin in the interscapular region on the midnight of November 21st. The temperature fell to 100.6° F. at 2.30 A.M., and was 101.5° F. at 4.30 A.M., and then fell slowly until eight o'clock the following evening, when the temperature registered 102.2° F. At eleven o'clock on the night of November 22d, the temperature was 99.6° F; therefore the temperature fell in this case in twenty-three hours from 103.6° to 99.6° F., without using any medication internally besides the injection of antitoxin. On Friday, the 23d, at four o'clock, in the afternoon, the temperature was normal and remained normal. The membranes which were visible previous to the injection had disappeared with the sinking of the temperature, and in the same way the glands at the angle of the jaw reduced in their size and slowly disappeared. The local treatment in this case was carefully followed out by Dr. Ladinski's orders, using a 1,000 to 2,000 sublimated solution on cotton swabs or by spray.

In this case, as in all other cases, we were indebted to the careful comments of the trained nurses in charge. The child remained well and had neither a complication of nephritis nor paralysis. The cases just cited have all of them been under five years of age. They were all cases in which we had recognized a severe diphtheria, and in which the prognosis was not only extremely grave, but in most of them the prognosis was fatal. The fact that the children were extremely weak, and had had different forms of treatment previously, did not seem to affect the action of the antitoxin, nor did it influence it in any way; it did not seem to exert any influence in the complications following the injection of the antitoxin whether treatment was or was not used before the injection of the serum. Besides the cases above cited, I have seen other severe and complicated cases in consultation with Dr. Romm, Dr. Waechter, Dr. Samuel M. Landsman, Dr. David Goldstein, Dr. Lazear, Dr. A. C. Carpenter, Dr. Stieglitz, Dr. Landes and so on, in all 225 cases. In 45 of these cases it was necessary to intubate; in 3 of these cases tracheotomy was performed. One case, in consultation with Dr. Goldstein, died through the carelessness of the nurse, and it is hoped that Dr. Goldstein will publish his own report of the same. In none of these cases was intubation or tracheotomy performed unless it was found absolutely necessary. In some cases an emetic was first tried to dislodge membranes and possibly relieve stenosis. In others ice-poultices, in the form of ice-bags on the neck, were used, and other palliative remedies. It is hardly necessary for me to cite other cases, having gone into detail with the last few, but I would rather speak of the indications necessary for the treatment of diphtheria with this new remedy.

If we consider that antitoxin is a product of the toxins of diphtheria injected into the horse, and that we use the blood-serum after an immunity has been produced in the horse, then we see that these toxins produce antitoxin and are only capable of healing diphtheria and really nothing but diphtheria. In one of his last reports Behring mentions the fact that he was prompted to produce antitoxin by watching the course of pneumonia. He noticed that nature will in a good, healthy individual, suffering with pneumonia, permit the same to have a temperature as high as 105° F. on one day, say at the crisis, and without any medication. Without any reason the temperature will suddenly drop to normal, proving what? Proving that nature has generated in the body certain antitoxins, which have certainly neutralized all the septic poisons generated by the toxins in the course of a pneumonia, and hence, the septic material being neutralized, the temperature returns to normal and the febrile process is at an end. It is easier, however, to write this on paper than to prove it on the living, and I will caution you, therefore, not to believe that antitoxin is a cure-all, but rather, that it is a remedy which has served me well and which has served the most prominent clinicians in Europe, and besides, has reduced the mortality in a great many instances from forty per cent. and fifty per cent. to fifteen per cent., and even lower. Considering also the fact that epidemics of diphtheria vary in different seasons, it is a very welcome remark to read Professor Baginsky's paper in the MEDICAL RECORD, October 6, 1894, and note that he expresses himself in the following terms: "That given our worst form of epidemic and our mildest form of epidemic, and the ordinary form of treatment as practised heretofore, the mortality was about thirty per cent., whereas since the introduction of the antitoxin the mortality sank as low as eleven per cent." This latter speaks volumes.

In the application of the remedy we must consider, therefore: 1. To apply the remedy as soon or as early in the disease as possible. 2. To inject a sufficient quantity. 3. Remember that the remedy given to us is absolutely harmless. 4. That the same can be used for prophylactic purposes by injecting the one-tenth part necessary for healing an acute case of diphtheria. 5. It is well to remark that although we use antitoxin the patient still requires local treatment of the infected places with a sublimated solution or other antiseptics; that the question of stimulants and hygienic and dietetic rules must be strictly carried out, and that, in a word, we must not expect healing wonders from this new remedy.

In thirty-six or forty-eight hours, at times, we should only look for the neutralization of the septic poisons absorbed in the body, and that therefore we can promise a great deal more in the commencement of the diphtheria by injecting a sufficient quantity, without further internal medical treatment. Emphasize, however, the extremest caution for hygienic and dietetic rules—if so, we must and will cure our case.

In order, however, to be sure that we are dealing with a case of diphtheria, which appears clinically so, it is necessary to prove the diagnosis by making a bacteriological culture of the same. We can, however, always safely treat a case as diphtheria that shows a membranous deposit on the pharynx, larynx, or tonsils or uvula, swollen glands, high temperature, or even low temperature, somnolence, and then wait for the result of a bacteriological culture to prove the diagnosis.

In Berlin a child is put into an observation pavilion and a culture for Klebs-Loeffler bacilli made immediately upon admission, and if the case looks clinically like diphtheria it receives at once its injection of antitoxin. If, however, the culture does not prove Klebs-

Loeffler bacilli the child is isolated and the treatment continued symptomatically and cultures again made; for how often has it happened, especially in the examination of newly formed pseudo-membranes, that no bacilli could be found, and how often can bacilli be found in older portions of the pseudo-membranes in almost a pure culture, so that we must also not forget that a technical error might be made in making cultures, and not be satisfied with one or two negative examinations. I saw a child with a severe form of septic diphtheria in which seven cultures on seven different days showed the absence of Klebs-Loeffler bacilli. This child died, and the post-mortem culture, two hours after death, was negative, and still no membranes involving larynx and trachea were present, as still no bacilli could be found. This shows that isolated cases may give us some trouble in verifying our clinical diagnosis. It is, therefore, perfectly proper to rely on the clinical diagnosis, as in the last case cited by me.

I was called to a child, about seven years of age, which had a severe pharyngeal, nasal, and tonsillar diphtheria, enormous infiltration on the throat and glands, not a very high temperature, extreme somnolence, fetor of the breath. The case was attended by Dr. Gengenbacher. In consultation, on November 29th, and after a careful examination, we decided that we were dealing with rather a severe form of septicæmia, and believing that antitoxin would do good in this case, I injected 10 c.c., *exitus lethalis*, after twenty hours. Had I known then what I know to-day of the value of antitoxin, I should not have injected that case, but would have warned the physician rather to use other remedies and not depend on antitoxin. To prove that, I was called in consultation, on December 3d, by Dr. N. S. Roberts to a severe form of septic diphtheria. I found the case to be the same as the clinical picture which I have given in the case of Dr. Gengenbacher. I decided not to inject this case, after consultation with Dr. Roberts, as it was really moribund and in the last stages of septic poisoning. The child was suffering from a mixture of scarlet fever and diphtheria. Another child, however, in the same family, which was two years of age, and which Dr. Roberts told me had been exposed to this infection, was injected by me in presence of the attending physician, with 2 c.c. of antitoxin for immunity purposes. Dr. Roberts wrote me that this child remained well and did not suffer any infection, proving the value of the immunity injection.

Contra-indications for the usage of antitoxin are: 1. Cases of mixed infection; cases of scarlet fever complicating diphtheria; cases of measles complicating diphtheria; cases of chicken-pox complicating diphtheria, and so on. 2. Cases that are moribund. 3. Cases that appear to be true septicæmia, where we have rather a result of the diphtheria than a real diphtheria to contend with. 4. I found that it was very important to make a careful urinary examination microscopically, and cases that showed a distinct evidence of casts and large quantities of albumin should not be injected with antitoxin.

I find, furthermore, that in a great many cases where casts appear in the urine, and large quantities of albumin, before injecting the antitoxin, that we frequently had quite some hæmaturia, bloody urine, as also severer symptoms, like swollen joints, swollen extremities, etc.

The eruptions which most commonly appear to follow the antitoxin have been varied. Some look like scarlet fever, some appear like measles, most of them look like erythema; seven cases looked like urticaria; nine cases showed purpura hæmorrhagica; where, however, these last purpura spots appeared it was found that coincident with these there was blood in the urine. I found these purpura spots chiefly surrounding the joints, on the face, and never did I find one in a case that received less than 10 c.c. of antitoxin, so that I was ready to believe that the greater the quantity of antitoxin injected, the more liable are we to have eruptions, especially of purpura. In one typical case in which we had purpura hæmorrhagica spots, there also appeared spots in the throat, and the gums looked like a typical case of scorbutus. Whether these eruptions are due to impurities of the antitoxin, or whether they are due to a previous disease of the horse and some impurity of its circulation, I do not know. It is, however, a positive fact that I have seen twenty-five cases of diphtheria injected with one kind of antitoxin, in which I did not have any exanthema whatsoever, and again, in another twenty-five vials of antitoxin injected, I seemed to have an eruption in almost every case, one eruption milder and others severer. These eruptions would appear and disappear and reappear when the first, second, and third injection of antitoxin were given, so that there could be no question that the coincidence of the eruption and the antitoxin injection was positive and that one was due to the other.

Finally, permit me to state that the choice of the seat of injection is entirely secondary to me, because I had injected the arm, I had injected the leg, I had injected the abdomen, but chose the interscapular region, because children do not see the needle, and I always could eventually lay a child on the knees of the nurse, face down. It appears to me to be the same as the choice of vaccination of the arm or leg, as practised to-day with cow virus.

I had brought over a small syringe containing 20 c.c., which was recommended to me by the kindness of Dr. Aronson in Berlin, and which was used by Professor Baginsky in the Children's Hospital in Berlin. I have had this syringe constructed through the courtesy of Mr. George Ermold, instrument-maker of this city. I am informed, however, that the firm of Schering & Glatz has imported the original syringe from its maker in Berlin. I should like to emphasize what has already been reported and published by me last October and November, that *5 c.c. of Aronson's healing serum will serve me, and has served me, as well as 10 c.c. of Behring's No. 2, and sometimes as well as Behring's No. 3. No. 1 solution of Behring is so weak for healing purposes that it should only be used, if at all, for immunity purposes.* When we think of the small quantity that can be injected by using a concentrated solution, as sold in this city, of Aronson's serum, it is wise in my opinion to use rather 5 c.c. than to be forced to inject 20 c.c., as the pressure of a larger quantity of fluid has in most of my cases made the children cry with pain for several days. Older children and adults described the pain as of a neuralgic character.

I have seen in all 225 cases in New York, in Brooklyn, and in Jersey City in consultation and private practice. I have reported in the *American Journal of the Medical Sciences*, January, 1895, 34 cases. In a great many of my cases I have injected two and three in one family; seven children for prophylaxis, besides injecting at times one, two, and three sick children for the curing of diphtheria. Several of my cases had been injected in the Children's Department of the German Poliklinik. One hundred and sixty-five cases were children under five years of age. I have also injected six adults. The other children were all over six years of age. Of these I have discharged as cured 191 cases in my own practice, and through the reports of the attending physicians in the various other cases, my mortality has been 34 cases, besides one accidental death, due to the carelessness of a trained nurse in a case in which tracheotomy was performed. Of these cases 68 showed distinct symptoms of nephritis, which could be proven microscopically. The importance, therefore, of a careful microscopic examination of the urine cannot be overdrawn. Besides the cases just cited of nephritis, 141 cases showed albumin in the urine; in these cases, however, we could not find any casts. In 64 cases hæmaturia appeared about thirty-six hours, in some forty-eight hours, following the injection of antitoxin,

and in which, I believe, we can ascribe the existence of the same to the injection of the antitoxin. It is, however, of the extremest importance to wait some time, until we can definitely prove whether this is a fact or not. In a given case, a strong boy, three years of age, with albumin in the urine 5 pro mille, according to Eschbach, the quantity of albumin increased to 9 pro mille twenty hours after the injection of 5 c.c. Aronson's antitoxin. In this case there were distinct symptoms of hæmaturia present. The symptoms, however, disappeared in two days after the injection, as also every symptom of blood. This was verified by a microscopical examination. Three days later I gave another injection of antitoxin, and again the albuminuria was increased and also the hematuria. Then a distinct eruption of purpura hæmorrhagica was visible. The eruption disappeared in five days. A strange observation was the fact that the eruption appeared much heavier and much thicker in the evening until midnight and disappeared toward morning. These symptoms were found in one distinct consignment of antitoxin, consisting of twenty-five bottles. Strange to say, the next consignment of twenty-five bottles, which arrived from Berlin three weeks later, did not give me any exanthemæ, resembling measles, urticaria, or scarlet fever, so much so that I was greatly impressed with the idea that possibly the eruptions in my previous case were due to some specific impurity traceable to the horse's blood or his system, and possibly the other consignment of antitoxin, which did not yield eruptions, may have been drawn of a healthier horse. The quantity to be injected is of very great importance. So I find that 5 c.c. of Aronson's antitoxin yielded just the same results as 10 and 12 c.c. of Behring's No. 2. This concentration of Aronson's antitoxin I regard as of very great value. This has been repeatedly pointed out by me in the MEDICAL RECORD—October 6, 1894, and later on, November 17, 1894, same journal.

Post-diphtheritic paralysis has been frequently observed by me during the course of antitoxin treatment. I have in all had twenty-one cases of facialis paralysis, and also paralysis of motion; paresis of the upper and lower extremities has also been observed by me. In all these forms of paralysis, however, there appeared some symptoms, and some are still to-day under treatment, although it is three months since the injection of antitoxin was given. I do not, therefore, believe that we can modify the course or the form of the paralysis occurring during diphtheria by injections of antitoxin. I do think, however, and I have seen cases that were injected early, that did have very mild forms of paralysis, so much so that it is possible that the antitoxin neutralizing the poison of the diphtheria absorbed in the system prevents, and probably modifies, the amount of septic matter absorbed, so that the toxins in the system do not affect the muscles and nerves as if they were not neutralized so early. The technique of the injection consists of—1. A careful sterilization of the skin of the patient to be injected at the seat of injection, the interscapular space, or the pectoralis region. Sterilization consists of washing of the skin with soap and warm water, then sponging the skin with a 1,000 to 2,000 sublimate solution. 2. The hands of the physician must be carefully and properly cleaned and rendered aseptic. 3. The syringe should be completely sterilized by boiling fifteen minutes in a soda solution. The needle should be dipped in alcohol, followed by a two per cent. solution of carbolic acid. 4. It is necessary to inject slowly; at the same time to have the proper quantity of serum drawn into the barrel of the syringe, so that no time is lost. The needle should be pushed into the deep cellular tissue, at least two inches in a semi-horizontal position. 5. Massage of the fluid injected with the skin should not be practised; finally, I should apply a very small pledget of absorbent cotton over the injected space, and the oozing of a small quantity of serum makes a film which completely prevents the entrance of septic material. The injected spot can also be sealed by dropping collodion over it.

The absorption of the antitoxin takes usually from one-half to one hour. At times I have seen a swelling produced by the injection of 5 or sometimes 10 c.c. of antitoxin remain for fifteen and even eighteen hours in one case. This is, however, rare. In other cases I can remember that the swelling disappeared within twenty minutes.

I have previously mentioned the fact that I refused to inject a case after consultation with Dr. Roberts. The same was true, later on, in consultation with Dr. Shulman, in which case the child was so moribund that we believed it useless. Both children died very soon afterward, and I have therefore reduced my mortality somewhat by not injecting these hopeless cases of septicæmia. Finally, I desire to state that my mortality has been 35 in 225 cases treated; 22 cases were under five years of age; 16 of the latter were under three years. My mortality has, therefore, been equivalent to $15\frac{1}{9}$ per cent., although my percentage of cures in the first 34 cases reported was $5\frac{8}{10}$ per cent. The high death-rate given by me is far above what has been given in Berlin, the Children's Hospital, and in several other hospitals abroad. This can easily be explained by the fact that in the majority of cases in which I was called in consultation to use antitoxin, it was used as a last resort only, and therefore the majority of cases were looked upon as hopeless. I took chances of injecting a great many cases in which we considered a grave prognosis, and therefore have attained the results specified above.

In conclusion, I desire to state that antitoxin should be used early, and believe that if the rules given above be carefully carried out, it is a safe remedy and can cure every case of diphtheria seen early; and even the most malignant cases should be injected, because I have seen moribund cases that were considered absolutely beyond medical control get well. I again state, however, that I do not believe it a cure-all, but believe it to be the best known remedy for the treatment of diphtheria in use to-day.

187 SECOND AVENUE.

ANTITOXIN IN DIPHTHERIA.

BY CYRUS EDSON, M.D.,

COMMISSIONER OF HEALTH FOR THE STATE AND CITY OF NEW YORK.

I HAVE recently had an unusually good opportunity to observe the use of antitoxin in the treatment of diphtheria, in two cases, occurring in my own family.

CASE I.—On Sunday, March 3d, a boy, aged seven, was attacked with vomiting; there was slight elevation of temperature, and his throat was slightly congested, but in no respect was there anything characteristic of diphtheria. On Monday morning a thin, grayish membrane covered the soft palate, the tonsils, and the pharynx. A culture was at once taken, and without waiting for the result of its examination, 6 c.c. of the antitoxin serum was administered at 3 P.M. of that day. This, it will be seen, was within thirty-six hours of the attack. The serum used was prepared in the laboratory of the New York Health Department, and was unusually strong; $\frac{1}{1000}$ c.c. of it having prevented the death of a guinea-pig weighing 250 gm., which had received an amount equivalent to ten fatal doses of diphtheria toxin. It will be remembered the preparation known as Behring's No. 3 (the strongest of Behring's antitoxins) is considerably weaker than this serum used, since it requires a dose of $\frac{1}{1800}$ to $\frac{1}{1800}$ c.c. to neutralize "ten times a fatal dose to a 250 gm. pig."

The temperature on Monday at 8 P.M. was 104° F.; the membrane appeared thick, white, and of a leathery consistency, almost completely covering the pharynx; breathing was rapid and difficult. In a very large ex-

perience with the disease I have never seen a more profuse exudation nor one of more malignant aspect. This view, as taken by me, was not due to the natural anxiety of a father, for Dr. H. M. Biggs, to whom the medical direction of the case was entrusted, concurred with me in the opinion.

On Tuesday morning the result of a culture showed Loeffler bacilli; temperature at 8 A.M., 103⅜° F.; cervical glands much enlarged and inflamed. The circumference of the neck was very much increased, and over the enlarged glands the skin was red. Eleven cubic centimetres of the same serum was injected at 9 A.M. On Tuesday night, 8 P.M., temperature, 102⅝° F.; the membrane was detached along its free margin and a considerable portion of it was cast off. On Wednesday, 8 A.M., temperature, 100° F.; the membrane was partly cast off, though a large, loose mass was still to be seen in the pharynx; the respiration was not much impeded, nor was it so rapid. The throat was sprayed for the first time with Dobell's solution, and this was continued during the waking hours at intervals of every two hours. This, with the exception of four grains of gray powder, given on Wednesday and Friday nights, was the only treatment in addition to the serum. On Thursday, 8 A.M., temperature, 98⅘° F.; the membrane was nearly all gone, small granular spots of it only appearing over the tonsils (which were congenitally large) and over the posterior walls of the pharynx; the appetite on Thursday returned, for prior to this time during the course of the disease it had been difficult to induce the child to take milk, which was the only nourishment. On Friday, temperature, 8 A.M., 99⅘° F.; 8 P.M., 100⅛° F.; appetite good, membrane entirely disappeared. On Saturday, 8 A.M., temperature, 99⅛° F.; 8 P.M., 100° F.; throat normal, glands almost so; no redness of skin. On Sunday, temperature, 8 A.M., 98⅘° F.; the afternoon temperature was not taken, but it appeared to be normal; the appetite was ravenous and the child could with difficulty be kept in bed, as he asserted he was well and had been for some time. He did not seem to have lost flesh, nor to have been much weakened by his illness. He is an unusually robust child.

CASE II.—A girl, aged nine, also remarkably robust, but with extremely large tonsils and a very nervous temperament, was taken sick with sore throat on Tuesday morning, before the report from the culture taken from the boy's throat showed positively his disease was diphtheria. Within three hours, however, subsequent to the visible commencement of the attack she received 6 c.c. of the same serum that had been administered to the boy. Temperature, Tuesday night, 104° F.; throat much congested but no membrane, and the culture taken showed the presence of suspicious bacilli, the report from this culture being received Wednesday morning. On Wednesday, 8 A.M., temperature, 102½° F.; patches of grayish exudate appeared over both tonsils, but this was not sufficient to entirely cover them; pharynx and uvula much inflamed. Six cubic centimetres of the serum were again administered at 9 A.M. The child was much terrified by the method of administration and had to be forcibly held. Temperature, 6 P.M., 104⅘° F. This high temperature was accompanied by a slight delirium, and was attributed to the effect on the nervous system of the struggle and fright incident to giving the antitoxin. By the advice of Dr. Biggs a single dose of ten grains of sodium bromide was given, and two drachms of whiskey administered every three hours. Within two hours and a half after the administration of the sodium bromide the temperature dropped to 100° F. On Friday, temperature, 8 A.M., 99⅘° F.; 8 P.M., 99⅘° F. Saturday, temperature, 8 A.M., 99° F.; 8 P.M., 99⅛° F. The child appeared well and extremely anxious to get up. During the course of the disease this child's throat was frequently sprayed with Dobell's solution. The injections of the serum in both cases were made in the abdominal region. Beyond the slight point where the needle entered the skin nothing is visible to show the site of any of the injections.

To a girl of twelve years, a sister of the children treated, 2½ c.c. of the same serum was administered for preventive purposes. Notwithstanding the fact that she was closely exposed, has a sensitive throat, with hypertrophy of the tonsils, and is extremely subject to tonsillitis, she escaped infection, but on the seventh day developed urticaria, which at first was localized over the site of the injection. The eruption covered an oval spot three by four inches, but did not extend or appear elsewhere until the ninth day, when a number of shotty papules, very closely resembling chicken-pox, but not proceeding to vesiculation, covered the dorsal aspect of the arms and hands, the chest, abdomen, and lower extremities.

The rash was most profuse over the arms and legs, and the itching caused by it was a very distressing symptom. The papules lost their shotty feel after twenty-four hours and spread by increasing their diameter until they coalesced and covered the extremities almost uniformly, leaving little streaks of white skin visible in places. On the third day after the appearance of the rash it began to fade, and by the evening of the fourth day it had totally disappeared. The temperature just preceding the appearance of the rash was considerably elevated.

During the outbreak the temperatures were as follows:

Day.	A.M. Degrees, Fah.	P.M. Degrees, Fah.	Day.	A.M. Degrees, Fah.	P.M. Degrees, Fah.
1	101⅛	102	3	99	99
2	99	101	4	Normal.	Normal.

On the eighth day after the injection the younger girl suffered from a profuse general urticaria. The eruption was intense and confluent, closely resembling the eruption of measles and involving the conjunctiva and mucous membrane of the mouth and palate. The itching and discomfort were so great that bromide and camphorated tincture of opium had to be given. The rash was preceded by a rise in temperature and persisted for five days. After the second day the eruption was much better at night, disappearing except in a few isolated spots, but reappearing after eating breakfast the following morning. During the middle of the day it appeared to be at its height. The temperatures taken night and morning were as follows:

	Degrees, Fah. A.M.	Degrees, Fah. P.M.
1st day of eruption	103⅜	103
2d day of eruption	102⅜	102⅞
3d day of eruption	101¼	102
4th day of eruption	100	102⅜
5th day of eruption	99⅜	100¼
6th day (eruption disappeared)	100⅛	103⅜
7th day, normal	99	Not taken.

Vaseline containing four per cent. carbolic acid appeared, in the case of the younger girl, to best allay the itching. In the case of the older girl, however, a solution of one ounce sodium benzoate in a pint of glycerine was made, and this being mixed with hot water in equal parts and used as a wash, seemed to give the most relief. The boy, who received the largest dose of the serum, and had the most profuse diphtheria exudate, did not, however, develop any urticaria until the seventeenth day after receiving the serum. Just preceding the appearance of the rash he seemed languid and complained of feeling tired. His temperature taken showed a rise to 102⅛° F. During the course of the day a number of wheals appeared on his arms, legs, and face. The diameter of these blotches was from one inch to two inches. The patches were isolated and gave rise to intense itching, which was relieved by a four per cent. carbolated vaseline. The temperature at night had fallen to 101° F., and the following morning was normal. The rash disappeared within six hours of its appearance, and did not again appear.

The two girls did not have at any time during the course of the disease, or afterward, any albuminuria, though the urine was frequently examined. The urine of the boy, however, on the third day after the attack was found to contain a trace of albumin, which disappeared about the sixth day.

A study of this eruption is very interesting. The cases treated by antitoxin at Willard Parker Hospital have developed it in comparatively few instances. Dr. Somerset, the resident physician, has reported the following facts concerning it:

Of 117 cases treated with antitoxin in the Willard Parker Hospital, 12 had an eruption which appeared between the eighth and twelfth days. Of these 12, the character of 4 was erythematous, somewhat resembling measles in appearance, distributed principally on the extremities, and exclusively so in 2 cases. These 4 cases were differentiated from measles by the irregular distribution of the eruption, the absence of coryza, conjunctivitis, and the characteristic measles temperature. Of the remaining 8, 5 were urticarial. The distribution of the eruption was irregular, the wheals varying in size, but seeming to be larger in the vicinity of the site of the injection, where they first appeared in 3 of the 5 cases. Most of the wheals had extensive peripheral erythema. The other 3 cases presented a distinct blush, irregularly distributed in areas of varying size. These areas were scarlatinal in appearance, but the distribution, tongue, and temperature were in nowise characteristic of scarlet fever. None of these rashes lasted longer than thirty-six hours, but in the urticarial forms they would disappear and again reappear, the alternations occurring perhaps three or four times in a single case. The eruptions seemed to occasion no inconvenience nor discomfort, and received no treatment other than occasional washing with some simple lotion. The temperatures were very irregular, and were usually highest before the rash appeared, but were in some cases highest during the eruption or immediately after its disappearance. Four of the five urticarial rashes occurred in cases receiving antitoxin from one particular horse, whose serum would thus seem to be more likely to cause an eruption than that from the other animals.

It will be seen there is a very distinct period of incubation after the administration of the serum and before the appearance of the urticaria. This period may be put at from five to seventeen days, and it shows, in my opinion, the eruption is not due primarily and directly to anything contained in the serum, *but rather to the action of the serum on the system of the patient; or perhaps to the development in the blood of the patient of some pathogenic substance through this action. To effect this action, or, rather, to effect this change in the system of the patient, requires the time which elapses during the period of incubation.* It is evident that not every person is susceptible to this effect of diphtheria antitoxin, or that the toxin of diphtheria is an antidote to the urticarial effect of the antitoxin. Time and a careful study of a great number of cases will alone demonstrate which, if either, of these two hypotheses is correct. The normal horse serum may have the property of causing the eruption in susceptible persons.

Experiments are at present being conducted in the Health Department Laboratory, with a view of ascertaining the truth or falsity of this theory. It may be, however, I think, safely assumed that the eruption is a local lesion of a general disease, of which the serum is the cause. This seems to be proved by the distinct period of incubation and the rise in temperature, which, I think, will be found more or less characteristic in the majority of cases where the temperatures are carefully recorded.

Concerning the therapeutic action of antitoxin there is much conjecture. The agent does not act at once like drugs administered hypodermically, but requires a very distinct and somewhat prolonged period of time to do its work. This period varies from ten to twenty-four hours, and makes it essential that the remedy should be given early in the attack to effect its object.

The theories advanced, when antitoxin was first used, and which seemed to be the most tenable from a bacteriological stand-point, were: the immune serum sufficiently reinforced the natural resistance to the disease to turn the balance in favor of a cure, and that the blood of the immunized horse contained a sufficiency of something that neutralized the poison of diphtheria as an alkali neutralizes an acid. These theories do not appear to be correct, for if they were, the action would follow the administration more promptly. It seems to me more probable that serum acts through the changes it effects in the blood itself, and that it requires time to bring about these changes. Whether it is that these changes are chemical and are due directly to the effect of the serum on the blood itself, or that they are brought about through cell stimulation, or that they are due to the development in the blood of some new substance, is not in the least apparent.

It is interesting to study the mortality among cases of diphtheria treated with antitoxin at Willard Parker Hospital, since January 1 to March 10, 1895. The total number of cases treated was 117; the total number of deaths 27; the per cent. of mortality, twenty-three; per cent. of mortality for corresponding period of 1894, thirty-three. During January the antitoxin used was very weak, requiring about $\frac{1}{100}$ c.c. to protect a guinea-pig weighing 250 gm. against an amount of toxin equivalent to ten fatal doses. This is about the strength of the solutions used for immunizing purposes. Of the 117 cases above named, 46 occurred during the month of January and the number of deaths was 13. The per cent. of mortality, therefore, for January was twenty-eight plus. January 31st to March 10th the number of cases treated was 71, the number of deaths 14, and the per cent. of mortality nineteen. The serum used during this period was considerably stronger, the immunizing dose for guinea-pigs being from $\frac{1}{600}$ to $\frac{1}{1000}$ c.c.

The number of cases of croup since February 1st at Willard Parker Hospital was 30, the number of deaths since February 1st 10; per cent. of mortality $33\frac{1}{3}$; and the croup mortality for 1894 was fifty per cent.

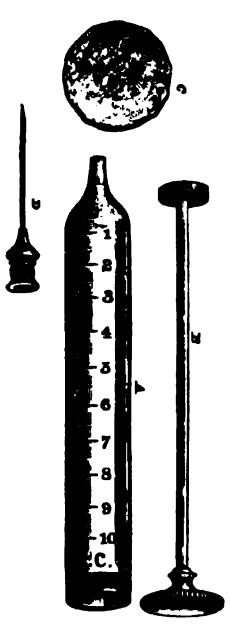
The number of operative cases of croup since January 1st was 22; the per cent. of mortality among these cases forty-five; per cent. of mortality for 1894, eighty. The average number of days that the diphtheria cases were sick before admision and administration of antitoxin was, in the fatal cases, $5\frac{1}{10}$ days.

Week ending—	Cases.		Total.	Deaths.		Total.	Percentage deaths to cases.
	Diphtheria.	Croup.		Diphtheria.	Croup.		
January 6, 1894....	210	9		59	16		
January 13, 1894....	175	13		63	12		
January 20, 1894....	195	16		68	18		
January 27, 1894....	106	8		69	12		
			732			317	$43^{30}/_{100}$
February 3, 1894...	171	15		58	13		
February 10, 1894...	173	10		59	13		
February 17, 1894...	122	13		47	13		
February 24, 1894...	76	20		58	15		
			700			276	$39^{43}/_{100}$
January 5, 1895....	194	15		46	10		
January 12, 1895....	200	14		56	11		
January 19, 1895....	155	13		33	12		
January 26, 1895 ...	205	7		34	5		
			803			207	$25^{77}/_{100}$
February 2, 1895...	159	10		33	5		
February 9, 1895...	150	16		39	10		
February 16, 1895...	170	7		29	6		
February 23, 1895...	176	12		43	6		
			700			171	$24^{43}/_{100}$

The above table shows the cases of, and deaths from, diphtheria, occurring in New York City from January 5, 1895, to February 23, 1895, and for a cor-

responding period in 1894. A very marked diminution in the death percentage from diphtheria is apparent. That the diminution is not greater, is probably due to the fact that most of the serum available in January and during a part of February was weak and was not generally used. The mortality for March thus far is much lower.

In connection with the subject I would like to call attention to a new antitoxin syringe made by Tiemann & Co., after my design, and illustrated by the accompanying cut, which does not, I think, have any of the objectionable features of the ordinary syringe. The difficulty of cleansing the ordinary syringe is very great, and is due to the packing of the piston, which is generally of leather, and to the leather washers used to make the end of the barrel air-tight. Koch's syringe is really the only thoroughly good syringe from the stand-point of cleanliness, *i.e.*, ease of sterilization, but the instrument is difficult to handle and is liable to inject air with the serum. My syringe consists simply of a glass barrel (A) graduated in c.c., containing 10 c.c., open at one end and ground to a fitting at the other.



The ground end fits a needle (D) having a hard-rubber shoulder. The piston (B) is in one piece, the plunger extremity being a little smaller than the diameter of the barrel of the syringe. A disk of rubber (C) or tightly woven cloth of suitable thickness is placed over the open end of the syringe and the plunger inserted. The rubber, which may be cut from an ordinary rubber bandage, engages the end of the piston so as to form when wet a water-tight cushion which is operated just as is an ordinary hypodermic syringe. Before using the syringe the rubber and the entire syringe should be sterilized by means of hot water. I have also had Messrs. Tieman apply this principle to the ordinary hypodermic syringe, and the result is extremely satisfactory.

A metallic case or box is provided to hold the syringe and disks. The ordinary velvet-lined syringe case is an abomination, and should never be used in connection with any hypodermic syringe, still less with any syringe used for the administration of antitoxin. The case for the syringe should be as easily disinfected as the syringe itself. The wooden cases now generally provided for antitoxin syringes cannot be sterilized by means of heat, which in this connection is the only perfect disinfectant.

An instructive paper might be written on the subject of the introduction of antitoxin in the United States. Such a paper would illustrate forcibly the great interest taken by the laity in medical matters, and their appreciation of the valuable discovery in question. It was this interest and appreciation that made it possible for the Board of Health to obtain the necessary appropriations to extend the facilities of its bacteriological laboratory so as to produce the serum, and that caused the *New York Herald* to give the project such effective aid by its support and the large sum of money it collected through popular subscription. The outcome has been the rapid production of antitoxin, so that at the present writing the Board of Health can easily supply the State of New York from its surplus of serum, with sufficient to treat all the cases of diphtheria that occur during the ordinary prevalence of the disease. Much of this serum is equal to the excellent preparation known as "Behring's No. 3," and some of it is even stronger and better. As I have stated in another part of this paper, Behring's preparation No. 3 requires $\frac{1}{1000}$ to $\frac{1}{1600}$ c.c. to immunize a guinea-pig weighing 250 gm. against ten times a fatal dose of diphtheria toxin, while one of our immunized horses furnishes a serum which, according to the last test made of it, was sufficient in a quantity of $\frac{1}{1100}$ c.c. to immunize a guinea-pig against ten times the fatal dose of diphtheria antitoxin. Expressed in antitoxin units this statement would be as follows:

	Antitoxin normal units.
20 c.c. Behring's No. 3 contains	2,600 to 3,200
20 c.c. Board of Health's strongest serum contains	4,400

The full antitoxin strength that the serum of the horse can be made to develop varies in different animals. The animal which produced the serum to which I have alluded has developed an extraordinary degree of immunity.

The number of immunized animals at present in the Health Department Laboratory stables is thirty. The amount of antitoxin capable of being produced by them is about forty thousand c.c. per month.

I desire to place on record here my appreciation of the services of Dr. Hermann M. Biggs, of the Health Department, especially in connection with the production of antitoxin in this country. By Dr. Biggs's request the Board of Health detailed him, in May, 1894, to study the subject in the laboratories abroad. Shortly after his arrival in Berlin he wrote letters fully describing the new remedy and its great promise. He also wrote directions to his assistant, Dr. William H. Park, to prepare the necessary toxin, so as to be ready to begin at once, on his arrival, to administer it to animals. To Dr. Biggs more than to any other man is due the early introduction of antitoxin into the United States.

MODERN TREATMENT OF LARYNGEAL AND PULMONARY TUBERCULOSIS.[1]

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In presenting some of my observations in the treatment of pulmonary tuberculosis I may say that, in my experience, the general management of the patient has proven itself of such importance that, without its correct application, there is little, if any, prospect for success. No matter what measures we may otherwise employ, the faulty conduct of the patient, his unhygienic environment, or his dietetic errors cause him to relapse so frequently from any benefit our therapeutic measures may have brought about, that the course of the disease is, as a rule, a downward one, in spite of all the remedies which we employ.

The general management must therefore be considered the foundation for the superstructure of symptomatic and direct treatment, and the fundamental principle which in its application should govern us at all times and under all circumstances is, "To secure and maintain the highest possible degree of general and local nutrition." In order to secure it in all directions we must not only have enough of good, well-cooked food, but we need also good digestion, assimilation, oxidation, and excretion, which to obtain and to maintain we must look into our patient's whole mode of life, and control it wherever necessary; we must learn his good and bad habits, and his tendencies to errors; examine into the healthfulness and function of all the rest of his organs and correct everything that is possible toward getting the greatest amount of vitality and physical vigor, by which we increase the inherent forces of the organism for successful resistance to the disease. To this end we should not only understand the pathology and course of pulmonary tuberculosis, but also general and special pathology and physiology in their relation and effects to health and disease.

[1] Read by invitation before the County Medical Association of New York, March 18, 1895.

The physician who can bring the greatest amount of such special and general knowledge to his case, must of necessity be the most successful (providing he also makes painstaking application of the same). Failure is practically certain for him who does not appreciate the great influences exerted by the individual physical condition of the patient, especially through the organs of circulation, digestion, assimilation, and excretion, upon disease in general, and upon the course of pulmonary tuberculosis in particular.

In considering these influences it would be next to impossible to anticipate every abnormal condition an individual patient may present, but the more important and most frequent indications I will endeavor to outline by a short review of my own practice.

Excepting cases in the earliest stages, when I take charge of a patient I order rest in bed, stopping all previous medication, and observe the course of the disease for a day or two, during which I make such changes in diet and the patient's mode of life as seem to be indicated. I also look after the condition of the skin ; begin with baths or cold rubbing, examine the urine, the sputum, the blood—obtain a record of the temperature, pulse, and respiration ; and, with a full physical examination after having taken the previous history, I am now ready to consider the evidence before me and to form an opinion as to what my patient's condition really is. The future management depends entirely upon what I have found. If the patient is practically free from fever, or if fever is absent for the greater part of the day, constant confinement in bed would not only be unnecessary, but would otherwise interfere with the patient's best interests. According to his strength, he is allowed to be up during the hours when the temperature is not elevated, and must be out of doors, either at rest there, or taking such exercise as his physical condition would warrant to risk, without incurring any sense of fatigue or shortness of breath. The amount of the exercise is controlled by its effect upon the circulation and upon the fever, and an increase is only allowed cautiously and gradually. Unless the digestive organs are deranged the patient is allowed a liberal mixed diet, which is supplemented by milk between the meals, if necessary. If the temperature record at any time shows elevation above 100° F. the patient must go to bed and remain there until the temperature has declined, and he must anticipate the probable rise on the following day by retiring at least one hour earlier. During fever hours the diet is light, the feeding more frequent. Hearty meals of meats, eggs, and coarser vegetables, if given shortly before, or during fever, are very apt to increase it or invite its recurrence. The patient receives a cold rub every day before rising ; but subnormal temperatures require caution in this respect, and it is best to wait with the bath until a normal temperature is reached, the patient remaining in bed until then.

If the case is of an acute character, or if complications occur, with continuous fever, every attempt to treat such a case without absolute rest in bed interferes with the arrestment of acute symptoms, and, as a rule, defeats the chances for improvement or recovery. In such cases we apply massage or electricity, or both, and substitute therewith the desirable exercise, while in suitable weather we bring the bed near the windows for the direct exposure of the patient to sunlight and out-of-door air. Absolute rest in bed is also imperative during complications like pneumonia, pleurisy, or hemorrhage, and they must have entirely subsided before the patient is allowed to be up and take exercise.

In all other ways the general management is constantly endeavoring to keep the patient from all harmful influences on the one hand, while taking advantage of everything, little as it may appear, toward keeping him in the best possible condition, on the other. Exercise, amusements, or light occupation, reading, mental states, clothing, position in sitting or reclining, partial or complete exposure to sudden variations of temperature, or to draughts and the like, are all important matters for watchfulness and proper advice ; and instead of relaxing our vigilance when the patient is improving we need to double it, for then he is willing to take more chances than he would have taken at a time when his symptoms made him aware of his danger. All this means, however, that the patient must be under continuous observation, and a single misstep or deviation from the proper course can be followed by relapse which it may take weeks, and months, to overcome, or which, indeed, may prove itself an irretrievable loss.

Near relatives are seldom reliable enough to so take charge of a patient, especially if the case is a severe one ; they are only too apt to regard the patient's desires and entreaties in a more or less hazardous direction, and it is difficult for them to say "no" in matters the importance of which they, as well as the patient, are apt to underestimate. Thus the ideal management is extremely difficult in private practice, and by no means an easy task in a special institution.

By the time a patient has learned from bitter experience all that may prove injurious, he is, as a rule, in an advanced stage, and it takes character, will-power, and self-control of a high degree for a patient to make a smooth and uninterrupted recovery, even when he comes in an early stage. The physician who, however, can have personal control, who can see and observe his patient at all times, whose directions are rigidly complied with by his assistants, and who can so circumstance his patient that harmful influences are practically excluded, has a great advantage, and he gains much valuable experience. Under such care arrest, more or less permanent, of pulmonary tuberculosis may occur without resort to any other treatment, especially in the early and uncomplicated stage of the disease.

In the symptomatic treatment of pulmonary tuberculosis almost any therapeutic agent may find rational employment at one time or another during its course of months and years. The limits of this paper forbid their consideration in detail, but so far as we may employ drug remedies, it means often that we are to choose between two evils, and we must, therefore, have good reason to believe that the benefits which experience justifies us in expecting will result, without incidental drug effects, which would prove in the end that our interference has done more harm than good. Upon such consideration rests the symptomatic treatment of all disease, and tuberculosis is no exception.

Under the head of general management I should also speak of climatic treatment, which, of all our means, is one of the most important for the arrestment of phthisis. There is, however, nothing specific in climate any more than there is in water or food. Climate is everywhere, and the difference in the purity of the air or in its density, in dryness of the soil, or in temperature, are relative matters, between one locality and another. Clinical benefits result altogether from its influence upon nutrition ; and in so far as elevation is also a factor, from its influence upon the circulation, the improvement of which is again a matter of better nutritive processes, both local and general.

The employment of climate means that we seek pure air, as free as may be from micro-organisms, from dust and from deleterious emanations of decomposing organic matter ; air which is sufficiently dry so that the functions of the skin are under most favorable conditions, in a locality which, by its elevation, improves the circulation, and at which the conditions of temperature favor an out-of-door life with the resultant better appetite and oxygenation, while with the increased solar effect at elevated places, under a clear sky, we hope to influence the usually deteriorated blood state for the better.

That all of these conditions are highly desirable for the phthisical patient I need not dwell upon, nor is it

necessary to seek for mysterious specific effects when the explanation of its benefit through nutritive influence is so apparent. Climatic treatment is thus justified in every respect, but it is a serious error to believe that when the best is not within our reach that we are justified in ignoring its rational use in less favorable localities.

If I were treating my patients in New York City, instead of Asheville, N.C., I should still make the climatic treatment a most important part in their general management, and it would here, as there, begin with proper and judicious ventilation of house and room. I would take advantage of the best air I could get, and of every hour of sunshine nature would vouchsafe, while I would protect my patients against unfavorable influences from changes of weather, etc. In the open country still better results would follow, and its good influence through the purer air and the greater out-of-door life has been a matter of common observation in places that in nowise can pretend to compare with the climatic conditions of celebrated health resorts. In the choice of the latter for phthisical patients I can add little to what has already been stated by Dr. Gleitsmann, and only call your attention to the fact that as far as elevation is concerned a golden mean offers every advantage and none of the disadvantages of sea-level and the high-altitude localities. In the latter the effect of the greatly diminished air-pressure upon the circulation of patients at all beyond the earliest stages has often caused serious disaster, and the extremes of temperature which increase with the elevation, as well as the excessive dryness, are often serious hindrances, rather than benefits for the patient's best welfare. But whatever the climate may be, it cannot protect the patient from errors in his general conduct, and an ideal general management must ever continue to be the most potent factor in the final results obtained.

From these considerations it naturally follows that comparatively few patients are treated under ideal conditions for their recovery. The insufficiency is attested by the enormous mortality which we witness in pulmonary tuberculosis, and the benefit of such care is shown by the good results obtained in special closed institutions, particularly in such as have the advantages of a favorable climate also. At the very best, however, the arrestment of the disease is often only temporary, the cures are few, and take a long time to accomplish. In no case can we be sure for years to come that the disease is really eradicated, and the possession of a specific germicidal remedy is the desire of all who have to treat tubercular patients.

Hoping so much from the use of tuberculin after observing the involution and disappearance of the tubercular tissue and of the specific germs in the animal experiment, the despair which took possession of us when we realized that, owing to the toxic properties of the remedy, a specific for human tuberculosis was yet a matter of the future, is still keenly felt by all of us. Most physicians failed on that account to take advantage of what good there was in the remedy from its use in well-selected cases, in minute, safe doses, and they are now more sceptical than ever as to the possibility of obtaining a safe and true specific germicide. Such a pessimistic position is certainly unjustifiable. On the contrary, the successful animal experiments, as well as the good effects of tuberculin in a great number of well-observed cases of pulmonary tuberculosis still justify the greatest hope for the future.

I am not at all prepared to state to you to-night that this hope has been entirely realized, but I am very certain that an important step forward has been taken. Indeed, so far as I have been able to observe from clinical evidence and animal experiment, it appears that the germicidal part of tuberculin is now successfully separated in a substance resembling in its chemical reaction a deuter-pepton, which can be obtained from tuberculin or from the culture-fluid of the tubercle bacillus. With this substance Professor Klebs has made numerous experiments upon animals, and its apparent safety and the success claimed by him and others in its clinical use upon the human subject also, caused me, over a year ago, to make use of it, first in a few of my causes in which tuberculin was not tolerated even in minute doses.

Professor Klebs found that the use of this remedy is also followed by involution of the tubercular tissue and by the disappearance of the specific germ in tubercular guinea-pigs, the same as he had previously observed it to occur under the use of the crude tuberculin from like doses; he also found that guinea-pigs can bear much larger doses of the remedy than of tuberculin, one-half cubic centimetre of the latter killing such an animal, as a rule, within twenty-four hours, while several cubic centimetres of the purified substance cause no material disturbance in its health. The toxic substances which he separated from tuberculin produced the poisonous effect of the latter, and seemed to exert no curative influence when given in doses under which tuberculin caused the recovery of the pig.

I am at this time repeating these experiments, and as far as I have gone, I find the claims of Professor Klebs to be borne out by my results. This would prove that when this substance, now called "antiphthisin" is separated from tuberculin, the latter loses its curative influence upon guinea-pigs, and acts as a poison only, and also, that antiphthisin represents the curative properties of tuberculin, since under its use guinea-pigs show involution of the tuberculin tissue, outlive the control animals for many months, increase in weight, and recover entirely when the treatment is sufficiently active and applied for a sufficient length of time. It further shows that antiphthisin is non-poisonous in doses much larger than required of tuberculin to cause the death of an animal in twenty-four hours, all of which is certainly an excellent showing for the remedy so far as we deal with guinea-pigs, small animals in which death occurs at an early period from pure non-complicated tubercular disease.

In the treatment of human tuberculosis, while the animal experiment is of great value, it is not justifiable to assume that the same result would necessarily follow; first, because human tuberculosis follows, as a rule, a much slower course, the tubercular disease having existed perhaps for months, or even years, before distinct symptoms of its presence make their appearance; and we cannot hope to apply the remedy a short definite time after infection. It is only exceptionally that we have opportunity to treat our patients before caseation, fibroid changes, and other effects have been produced.

To get at all analogous conditions for comparison we must expect to find them in cases of acute miliary tuberculosis, but even there it is probable that the general infection had its source in some degenerate gland or local focus from which the germs became liberated.

If antiphthisin is a true specific germicide, we can only hope to influence the specific germ by its use, but we cannot expect to reach it except in living tubercular tissue, and its effect under the same dose must be in proportion to the vascularity of the part. In recent tubercular eruption in the lung the remedy should therefore give us the best results, while a cheesy degenerated mass, or a fibroid nodule, would remain entirely uninfluenced. Dead or necrosed tissue represents a foreign body, which, as well as fibroid changes or formed cavities, are results of tuberculosis, and cannot be made to disappear from the use of a germicidal remedy which can only remove the cause.

The coagulation of the protoplasm in the still living cells of tubercular tissue is caused by the specific germ or by its products; under the removal of the cause such cells again return to their normal condition, and Professor Klebs has shown this to occur under the use

both of tuberculin and of antiphthisin. This is all we can hope from the most perfect germicide.

The destruction of the bacillus of tuberculosis upon open surfaces, therefore upon the surface of cavities and localities where necrosis has already occurred, is necessarily more difficult, because under such conditions the blood cannot exert its germicidal properties, and at most but feebly upon the slightly vascular base, while the growth of the germ upon surfaces to which the air has free access is more rapid and luxuriant.

I cannot here follow the possibilities and limitations of a germicide for the bacillus of tuberculosis acting through the blood, the serum of which probably further enhances its effect. Any thoughtful student can do this and find why, for instance, the remedy would be less potent in effect upon the dense, firm, tubercular infiltration in the larynx, and most effective upon recent young tubercular tissue in the lung.

While the animal experiment and theoretical considerations in the light of the histological and pathological changes in the disease under consideration are necessary as a basis for all new therapeutical procedures, the clinical results, as we observe them in our patients, must still remain our chief guide for the estimation of the value of a remedy, whatever it may be. Having now a year of such clinical experience behind me, during which I have treated nearly a hundred patients with antipthisin, and having had as good opportunity as a special institution under most careful observation of the patients in the light of a considerable previous experience can afford, I can only say that my conviction as to its clinical value has steadily grown stronger, and that I have uniformly observed favorable changes in the tubercular processes, often to their entire disappearance, in the lungs of my patients, with return to normal conditions, where percussion and auscultation had given every evidence of a pathological state before its application.

I have further seen the rapid involution of the tubercle bacilli in the sputum, and their entire disappearance from it while the sputum was still purulent, in early stage cases; I have not observed their return in such sputum upon subsequent examinations when continued until no more expectoration was available. On the other hand, I have seen the persistence of consolidation, or only partial clearing up of the percussion note, or noted no apparent change at all, especially in old lesions and over cavities, and I have explained this by the fibroid changes which were evidently present. In cases with cavity the tubercle bacilli have been much more persistent, and degenerative forms did not appear as early in globular or cavernous sputum. It is similar with the fever, but most encouraging as to the specific effect of the remedy has been its success in acute cases, of which I have had four among my patients.

In one case acute and general dissemination had occurred from an older circumscribed focus, in the other three cases only diffused acute processes were present in both lungs, and all four had continuous temperatures between 102° and 105° F. All the patients dated the beginning of their illness from within two months, and severe anæmia, exhaustion, and rapid emaciation were well-marked symptoms. In every one of these cases the fever began to decline within the first two weeks; it soon became intermittent, and after a month or six weeks it was so far controlled that it rarely reached 100° F., while the local and general improvement of the patient was satisfactory in the highest degree. One patient is discharged apparently cured, the three others are still under treatment and are steadily improving.

In the early stages of the chronic form I have without exception seen the same favorable course. On the other hand, I found the temperature less influenced in cases which had suppurating cavities, or which presented evidence of cheesy pneumonic processes, with or without apparent softening and progressive destructive changes. The local and general improvement in such cases was, as a rule, less evident, although some portions of the consolidation present cleared up in almost every case treated. In quite a number of such advanced cases the improvement became more manifest as the treatment was continued and led to satisfactory restoration of the general health and apparent arrestment of the local disease justifying their discharge.

With this clinical evidence in my own cases, and with corroborating statements by all other practitioners who have used the remedy for a sufficient length of time, I believe that I can conscientiously recommend its trial to the profession, especially since I have seen not the slightest indication of any harmful incidental effect.

In conclusion, I would once more call attention to the necessary limitations of the remedy which suggest themselves from a full consideration of the pathology of tuberculosis, especially of the advanced stages, and which my experience has shown to exist. If we bear these in mind we shall not expect to accomplish the impossible nor shall we be likely to suffer disappointment.

MODERN TREATMENT OF LARYNGEAL AND PULMONARY TUBERCULOSIS.[1]

By J. W. GLEITSMANN, M.D.,

NEW YORK.

THE subject submitted to your consideration this evening is of such importance and magnitude that I felt some embarrassment as to how to present it to you without too great a tax on your time and patience. In order to keep the paper within the necessary limits it was found advisable to eliminate all details, and to merely touch upon the salient features of some points which otherwise would deserve a lengthy consideration. By the courtesy of our esteemed President, permission has been granted me to turn over the larger part of the pulmonary therapeutics to my friend, Dr. von Ruck, who, on account of his large experience, enjoys special facilities to do the subject justice.

Historical Sketch.—The treatment of laryngeal and pulmonary tuberculosis has undergone such a radical change in the last half of our century, that the advance science has made and the advantages patients have gained will be better appreciated if you will permit me to devote a few remarks to the development of our present therapeutics of the disease. As long as it was considered doubtful that consumption could be cured, palliative measures were *en vogue;* equable, warm climates were recommended, among which the Isle of Madeira enjoyed the special favor of our English confrères; the whole treatment was a more passive one, and consisted largely of guarding against injurious influences. About the beginning of the last half of the present century, publications of climatologists appeared in quick succession, stating the decrease of phthisis at high altitudes. Their statements were soon followed and confirmed by those of medical writers, who observed the beneficial effect of a prolonged sojourn in these regions. Among the former I will mention Fuchs,[2] Jourdanet,[3] Hirsch,[4] and Archibald Smith;[5] among the latter, Herman Weber,[6] Charles R. Drysdale,[7] Lombard,[8] and Biermann.[9] In 1854, Brehmer

[1] Read before the Medical Association of the County of New York, March 18, 1895.

[2] Fuchs: Medizinische Geographie, Berlin, 1853.

[3] Jourdanet: Les Altitudes de l'Amérique tropicale, Paris, 1861.

[4] Hirsch: Handbuch der historisch geographischen Pathologie, vol. ii., Erlangen, 1862.

[5] Smith, A.: Climate of the Swiss Alps and the Peruvian Andes compared, Dublin Journal, 1864 and 1866.

[6] Weber, H.: On the Treatment of Phthisis by Prolonged Residence in Elevated Regions; Transactions Medical and Chirurgical Society, London, 1869.

[7] Drysdale: Alpine Heights and Change of Climate in the Prevention and Treatment of Pulmonary Consumption, London, 1869.

[8] Lombard: Les Climats des montagnes, Genève, 1873.

[9] Biermann: Hochgebirge und Lungenschwindsucht, Leipzig, 1874

founded his sanitarium for consumptives at Goerbersdorf, Silesia, and although starting from the wrong premise, that an abnormal smallness of the heart was the principal cause of consumption,[1] he obtained excellent results by his method of treatment. Of nine hundred and fifty-eight consumptives treated by him during the first fifteen years, twenty per cent. were permanently cured. His method was based on the principle of tonic and roborant treatment, and consisted of the freest possible use of pure mountain air, proper diet, methodic exercise, and hydro-therapeutics, with such constant supervision of the patient as is only possible in an institution. His success stimulated the foundation of other institutions on similar principles, to which I also committed myself (1874) and adhere to to the present day.[2,3] About the effects of and the results obtained with tuberculin, tuberculocidin, etc., you will hear in a later part of the paper.

Progress in the treatment of laryngeal tuberculosis was much slower. The words of Tobold, 1866,[4] that "in the majority of cases the prognosis is very unfavorable," were repeated by Mackenzie, 1880,[5] who says: "The prognosis of laryngeal phthisis is always extremely unfavorable, and it is not certain that any cases ever recover."

The treatment was symptomatic and remained unsatisfactory, although some remedies recommended at this period are still in use at the present time, with varying success. A great advance was made when Krause announced his results obtained by applications of lactic acid.[6] The first series of observations from the lactic-acid treatment in this country was published by the author, in the New York MEDICAL RECORD, 1886.[7] Krause was followed by Heryng,[8] who introduced the surgical treatment as it is now practised.

Laryngeal Tuberculosis: Local Applications.—Although careful attention to the general condition of a patient suffering from laryngeal tuberculosis is indispensable, I shall not touch on this part of the treatment, but shall speak of the local treatment only. Disinfecting and anodyne sprays and insufflations are extensively used up to the present day. Intra-laryngeal injections of twenty per cent. menthol in an oily solution were first practised by Rosenberg,[9] and lately an addition of two per cent. of guaiacol to the menthol solution is well spoken of by English authors. In the opinion of the writer, the best results in laryngeal ulceration—aside from curettage—are obtained by the proper and judicious application of lactic acid. In making this statement we must not lose sight of the fact that in laryngeal tuberculosis we have to deal with a most intractable disease, and which until lately was generally regarded incurable. As isolated cases of a spontaneous cure are known to occur, and as relief can be afforded and even an apparent cure effected by different remedies, a long period of observation of the patient and an extended trial with the remedy mentioned is necessary in order to become convinced of its efficacy. Very appropriately the late Gottstein says in the last edition of his book on diseases of the larynx: "The physician who discards lactic acid after a few unsuccessful trials will not be able to form an unbiassed judgment; only one who uses the method systematically for a longer time will achieve better results with it than with any other method of treatment."

For the introduction of the acid, special instruments have been devised, but an ordinary good laryngeal cotton-carrier will answer the purpose. The acid must be rubbed into the ulcer with a moderate degree of force, and the strength of the solution employed should be gradually increased from twenty to seventy-five or eighty per cent., or even the full percentage. As a rule, an eschar is formed, which, when exfoliated, leaves a clean ulcer, showing a tendency to cicatrization. Contra-indications are a high degree of hectic, far-advanced destruction of lung tissue, or extensive ulcerations of the lower larynx and trachea.

The connecting link between local applications and surgical treatment are sub-mucous injections. As lactic acid is only efficacious in the treatment of ulcerations, and does not act on parts covered by intact mucous membrane, infiltrations must be treated in a different manner, and they can be reduced by sub-mucous injections. Quite recently, such injections with an oily solution of creosote, two drachms to the ounce, have been highly lauded by Dr. Chappell, and if further experiments confirm his results we shall have in creosote a fair rival of lactic acid for this purpose. There is a difference of opinion as to the length of time which should be allowed to intervene between each injection, as well as to the strength of the solution. In my cases I had the best results from injections of five to eight drops of a fifty per cent. solution of lactic acid, which were not repeated until the usually large eschar had sloughed away; this it generally does in from six to ten days. Although ingeniously constructed syringes for this purpose are in the market, an ordinary good syringe, with a properly curved laryngeal attachment and a good point, accomplishes everything that is desired. I have found injections most useful and beneficial in large, club-shaped thickenings of the arytenoids, giving rise to distressing dysphagia, and in such cases, I prefer them as a rule to either curettage or excision, as the latter are much more trying and painful to the usually weak and emaciated patients.

Surgical Treatment.—We now come to the surgical treatment, which is threefold, consisting of either incision, curettage, or excision. The idea of surgical treatment in laryngeal tuberculosis emanated from the reports of the good results obtained by surgeons in the treatment of tubercular affections in more accessible regions of the body. Incisions into the infiltrated parts, especially in the region of the epiglottis and the ary-epiglottic folds, were first practised by Moritz Schmitt,[1] who observed lessening of the infiltration and subsequent relief in a number of cases. Curettage and excision, by far more frequently employed, especially on the continent, were first practised by Heryng, who, in conjunction with Krause, worked indefatigably to improve this method. Curettage is indicated in ulcerations, while excision is better adapted for infiltrations. By the former the ulcerations are scraped until the diseased tissues are entirely removed, and then lactic acid or iodoform is applied. By excision the infiltrated parts are cut away until healthy tissue is reached.

The three sets of instruments I present to you for inspection plainly show the vast improvements that have recently been made in this direction. For operations in the sub-glottic space, Scheinmann's forceps is an excellent instrument. The contra-indications to surgical treatment, as enumerated by Heryng, are, advanced pulmonary disease, diffuse miliary tuberculosis of the larynx, severe stenosis of the larynx, when tracheotomy is indicated, and lastly irritable, distrustful patients, who lack the necessary fortitude and perseverance.

It would carry us too far to speak of the technique of operating, or to enter into the literature and controversies which this treatment has elicited among different writers. Sufficient to say that Heryng, who un-

[1] Brehmer: Die chronische Lungenschwindsucht, Berlin, 1869, p. 65.
[2] Gleitsmann: On the Nature and Curability of Pulmonary Phthisis, Richmond and Louisville Journal, July, 1874.
[3] Same: Contribution to the Treatment of Pulmonary Phthisis, New Orleans Medical and Surgical Journal, July, 1877.
[4] Tobold: Die chronischen Kehlkopfskrankheiten, Berlin, 1866.
[5] Mackenzie: Diseases of the Throat and Nose, vol. i., London, 1880.
[6] Krause: Berl. kl. Wochensch., No. 29, 1885.
[7] Gleitsmann: New York MEDICAL RECORD, January 16, 1886.
[8] Heryng: Die Heilbarkeit der Larynxphthise, Stuttgart, 1887.
[9] Rosenberg: Menthol gegen Tuberculose, Therapeutische Monat., No. 3, 1887.

[1] Schmitt, M.: Deutsches Archiv fur klin. Med., 1880, vol. xxvi.

doubtedly has the largest experience, has treated in this manner 268 cases from 1887 to 1894. Of this number, 20 patients were cured; in 8 of these the cure has lasted over four years; in 8 over two years, and in 4 over one year; altogether about 13.5 per cent.[1] Although the number of cures may appear to you extremely small, it must not be forgotten that by this treatment many distressing symptoms, *i.e.*, dysphagia, etc., can be alleviated and even permanently relieved, although the patient may die later on. Laryngeal tuberculosis is so fatal a disease that we can congratulate ourselves if we succeed in curing even a very small percentage of our cases. One of my patients shows the destructive lesions of the larynx and the pharynx as they appeared when the disease had reached its climax. He is now strong and well, seven years after the appearance of the disease. Even if I had never succeeded in relieving another patient, she would nevertheless prove a living example of the benefit to be derived from surgical treatment, without which she undoubtedly would have died years ago.

For the sake of completeness I shall mention electrolysis, tracheotomy, and extirpation of the larynx on account of tuberculosis, but time forbids me to enter into the merits and indications for these measures.

Pulmonary Tuberculosis; Climatic Treatment.—As we have at the present time no reliable means to cure tuberculosis by home treatment, patients who can afford it and in whom the disease is not too far advanced had better go to some climatic resort. When we consider the bewildering number of such places, with their diversity of climate, all laying claim to certain beneficial influences on patients, the question of where to send a patient in a given case is a very perplexing one. As the treatment of tuberculosis is now conducted more on stimulating than sedative principles, we naturally look for a climate with pure, bracing atmosphere, which we are more apt to find in mountainous regions than in the lowlands. There will always be a large class of patients who are better suited in warmer, southerly latitudes, patients who feel uncomfortable at the slightest change of temperature, or who are too weak to take even a moderate amount of exercise, and who require a warm atmosphere in order to be able to remain outdoors. The degree of elevation depends somewhat on the preference of the physician and the condition of the patient. Without going into details, we can say that patients with chronic infiltrations or stationary lesions will get along very well at higher elevations, while those with active processes, a weak heart, and a tendency to hemorrhages are better suited in lower regions. It would carry us too far to enumerate the different health-resorts, and I shall mention only a few types. We see good results from a sojourn in the high alpine regions in Switzerland, *i.e.*, Davos, St. Moritz, as well as in the lower resorts of middle Europe. In our country, Colorado, with an elevation of over five thousand feet, was primarily settled by miners and consumptives. On the other hand, the Adirondack Mountains in our State and the southern extremity of the Blue Ridge have earned a well-deserved reputation. The latter covers a vast area, and comprises the Cumberland plateau in Tennessee, the whole western North Carolina, and adjacent portions of Georgia and South Carolina.

In spite of all that has been said the selection of a proper place for the patient will always require great circumspection, good judgment, and a fair climatological knowledge on the part of the physician. Wherever we may send our patients, a prolonged stay—not a sojourn for one season only—will be necessary to relieve this treacherous disease.

I cannot close my remarks with a more fit sentence than to quote the words of the late Niemeyer, who said: "The chief desideratum is that patients, wherever they are, should live carefully and remain under the supervision of an intelligent, conscientious physician."

[1] Heryng: Journal of Laryngology, etc., 1893 and 1894.

MYXŒDEMA TREATED WITH THYROID EXTRACT—REPORT AND PRESENTATION OF A CASE.[1]

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MR. PRESIDENT AND GENTLEMEN: At the last meeting of the Alumni your esteemed president called upon me to report my case of myxœdema. As the call was unexpected, and as my knowledge of the case at that time was yet incomplete, the report was necessarily meagre and devoid of the proper interest. To-night, however, I am in a position not only to give you a full and detailed account of the case, but, fortunately, am able to show you the disease in its relapse.

In the way of an apology for reporting to you only one solitary case, I wish to remind you that myxœdema, as yet, is a rare disease. Up to date, as far as I could ascertain, about seventy cases were reported here and in England. I say "as yet," for I believe the disease is not destined to remain, numerically, a clinical curiosity. Its recognition does not require extraordinary diagnostic acumen. Its oddness makes it extremely impressive. Once seen it can never be forgotten, and never be mistaken. Even less than seeing, if only a full and correct description of myxœdema were read or listened to, the mental picture would be such as to make one identify it wherever he met it. And just as soon as the profession learns, through one medium or another, to recognize the peculiar malady, the literature and the reports of it will be manifoldly increased. I would not vouch that, notwithstanding the already acquired fame of myxœdema, some men to-day treat it for chronic Bright's disease, anæmia, melancholy, or obesity. My own observation of myxœdema led me to suspect two elderly women whom I recently saw waddling along on the East Side, who looked to all appearances myxœdematous. A friend, a physician, told me the other day that he diagnosticated a myxœdema riding in a horse-car.

A point which is not generally known about myxœdema is the plausible assumption that it is a new disease, that thirty years ago the disease was not only unknown, but that it did not exist at all.[2]

CASE.—Mrs. S——, aged twenty-nine, of small stature; a Jewess, and a native of Poland. Her family history presents nothing of special significance, except that her oldest child has hip disease. Her personal history is as follows: While a child, she went through all the diseases peculiar to childhood, leaving her health unimpaired. At fourteen menstruation appeared, which was always regular and painless. At seventeen she entered upon her nuptials. During the first three years of her marital life she suffered three miscarriages; in the fourth year, however, she was more fortunate—she carried to full term. This was followed by two more successful pregnancies, her health remaining good.

Two years ago she lived on the outskirts of a village near a forest. Having been often left alone in the house, exposed to the influence of dreary woods, her mind became full of apprehensions, dangers, and terrors, and her nervousness steadily augmented. The last straw that broke her down completely was a shock that she sustained at the unexpected sickness of her oldest boy. Almost immediately after, her face suddenly became swollen; the swelling was so enormous that the eyes and nose were unrecognizable. This condition, while lasting four weeks, caused no pain whatever. With the dis-

[1] Read before the Alumni Association of the Mount Sinai Hospital, November 27, 1894. Patient was also presented at a meeting of the New York County Medical Association, May, 1894.

[2] International Clinics, vol. ii., second series, page 8.

appearance of the swelling, the woman began to lose flesh and strength until she was reduced from corpulency to a mere skeleton. Five months later her face began to swell again, but this time the process was gradual. At the same time with the swelling she felt pricking sensations in her fingers and chilly sensations all over the body. Gradually she began to observe that her hands, legs, and body were assuming an unusual size, and that her memory was getting treacherous. These symptoms were slowly but steadily progressing until her husband and friends became alarmed, and finally sought medical advice. I saw her for the first time in April, and the clinical picture she then presented is as follows: Marked œdema of the forearms, hands, legs, and abdomen.

FIG. 1.—Before treatment.

The œdema of the face was not so pronounced. The œdema in the abdominal walls felt in some places as if it were sacculated, for I could lift up and compress it like a semi-solid tumor. In particular parts, as on the legs, the œdema pitted on pressure, but generally it did not. The swelling of the hands was so great that their closure was a mechanical impossibility. The fingers were characteristic, short, stubby, and spade-like. The nails were brittle and discolored. The œdema of the legs did not go beyond the ankles, but it reached an extreme which made it impossible for the poor victim to put stockings on, and when she did succeed in adjusting dilatable coverings, she was loath to remove them; and like the Jews in their forty years' wandering through the desert, the leggings grew with her legs. The toes were in no way affected. The skin was pale, dry, and where the œdema was greatest, it was covered with rough scales. Perspiration was totally absent in spite of hot weather, hot baths, or exhausting work. She was keenly susceptible, however, to cold, and she invariably felt better in the warm season. She had some of the facies of myxœdema, namely, arched brows, flattened nose, deep sunken, peculiarly glistening, eyes; thick lower lip, and though being anæmic, there was always a circumscribed flush on her cheeks. The total expression of her face was stupid and listless. The tongue was coated, flabby, and hypertrophied; it filled the whole mouth, made speech slow and dragging, and swallowing difficult. The gums were spongy and the teeth wide apart. Stomach and intestines presented signs of a mild dyspepsia. The disease, however, seemed to have chosen the intellect for its special target. There was a complete loss of memory, and as she was in business, engaged in buying, selling, and especially trusting, you can easily imagine her prosperity. Logical reasoning was out of the question, for before she arrived at the conclusion the premises were a thing long forgotten to her. When she did not work, she was sleeping, and when she did work, she was dozing. Constant drowsiness seems to be a special feature of myxœdema. She had no mental aberrations while awake, but at night her sleep was disturbed by nightmare. As she lived, moved, and had her being in a continuous dream, this, perhaps, more than her odd physiognomy, made her look stupid and indifferent. Her hair was dry and shaggy, but there was no falling out of it on the head, while there was a complete emigration in the axilla and pubis. Sight and hearing were somewhat impaired. Dr. Carl Koller, to whom I am indebted for examining the eyes, found nothing in them of especial character. The electrical test of the muscles, which was kindly made by Dr. Leo Steiglitz, was found to be normal, save in muscles which were covered by marked œdema, where the reaction was a little slower. Reflexes were normal. The heart was slow, but the apex-beat was proportionately strong. The lungs normal. The temperature ranged between 97° and 98° F. The blood indicated a condition of anæmia, and the urine, from time to time, contained a trace of albumin, a diminution of urea, and an absence of casts. Menstruation was regular but scanty; anaphrodisia, strange to say, was a symptom prominently mentioned by the patient herself. Her gait was of the waddling kind, and her movements lazy and laborious. While she complained of pricking sensations in the tips of her fingers, the skin overlying them was more or less anæsthetic. Areas of anæsthesia were found on the lumbar and cervical regions; there was also complete anæsthesia of conjunctiva and pharynx. In the place corresponding to the thyroid gland there was a deep depression, enough to hide my fist. Such was the condition of my patient when I first saw her in my office in the middle of April, 1894.

FIG. 2.—After treatment.

The photograph (Fig. 1) that is passed around was taken by Dr. George H. Fox, to whom I am exceedingly thankful. A better and more characteristic picture was taken of the more remarkable hands, but was, unfortunately, lost.

For certain reasons I toyed with the disease until May 23d. On that day the woman was put on thyroid extract (Parke, Davis & Co.). The initial dose was five grains in a capsule. And I may say here at once that I could not increase this daily dose by even one grain without producing distressing headaches and troublesome palpitation of the heart. Besides, there was no need nor justification to push the dose farther, as the five-grain dose was all-sufficient. The effect of the first capsule was so gratifying to her, that, like Oliver Twist, she cried for more. Within one week, that is, after taking thirty-five grains of the extract, she could move and bend her formerly unwieldy fingers; could pull off her stockings easily; memory improved; speech, sight, and hearing were very much better. The only undesirable occurrence during the first week's treatment was the development of acute pain in the knee-joints, and extremely tender, reddened areas over the tibiæ, resembling very

much erythema nodosum. All that, however, quickly yielded to phenacetin. At the end of the second week, that is after taking seventy grains of thyroid, the patient's skin was bathed in perspiration; the tongue moved as fast as in the good old days; her bodily movements, general appearance, and mental activity were so changed that for the first time she began to realize how clumsy and awkward she had been. The event of the second week was deepened anæmia and headaches, which were, however, more or less successfully combated by the albuminate of iron. The thyroid was continued for a month longer, the dose remaining the same. At the end of this time, the woman was perfectly well. And what a change! Without having seen her, you can hardly appreciate it. She had lost by actual weight thirty pounds during the six weeks; and the face, while not the dream of an artist, still was smooth and shapely; intellect clear; memory retentive; regions that were rendered barren once more resumed their hairy growth; and last, but not least, the woman that was for three years sterile now became pregnant. From that time on the treatment was irregular; the patient feeling well saw no need for taking medicines; yet I forced her to take ten grains a week to prevent a relapse.

On September 13th I treated her for abortion; and since then, up to the middle of this month, I did not see her, during which time she took no medicine, and therefore got a relapse.

To complete the clinical picture I should mention the fact that the temperature from the beginning of the treatment up to the last day was never higher than 99° F., while at times it was normal. The urine from the first day on was larger in quantity, higher in specific gravity, more acid in reaction, and rich in urea.

Now, gentlemen, as this was a typical myxœdema, and as its cure was so rapid and effective, I need hardly impress you with the value of that wonderful animal extract. And I may be permitted to say here that all talk to the contrary seems to indicate either a false diagnosis or a spurious drug. Personally, my confidence in the action of the thyroid extract is so great that if a supposed myxœdema did not improve on a reliable preparation of thyroid extract after one week's trial, I would unhesitatingly exclude the diagnosis of myxœdema.

The excellent result I had with thyroid extract seems to be different from that of a good many other observers, inasmuch as the improvement and cure of my case were uniformly good and rapid. My reason for it is that the patient's progress was not interrupted by any delaying complication, as the experience of others was in their cases. I did not discontinue the treatment for one day, as there was no contra-indication to such a procedure whatever. The reason for the absence of any complication seems to me to be that, since I was satisfied with the purity and reliableness of the extract, I did not push it to the point of intolerance as others did. I believe that a five-grain dose a day is sufficient and effective.

I think it is preferable to employ a powder to a tabloid, for the latter necessarily has a fixed dose—a feature highly objectionable, especially when you are anxious to make your daily dose larger. A point worthy of mentioning, and one worthy of adopting in the treatment of myxœdema, is to put the patient from the start on some form of iron in connection with the thyroid. This additional measure will, to a great extent, prevent or control the otherwise unavoidable anæmia that goes along with the disease and its treatment.

In the beginning of my paper I promised to show you the patient, but I ask you, please, not to expect to find a full-fledged myxœdema. You will find, however, a commencing relapse, with initial symptoms such as chilly sensations, loss of memory, difficult speech, and some œdema. A month longer, and I should expect you to see the disease pretty well developed.

Now with a specific for the disease at our disposal we may, for a moment, complacently look back and see how, but a short while ago, the disease was treated. "Hot bath every evening and twenty grains of bicarbonate of soda in water three times a day." Next came jaborandi, and while improvement in some cases did follow the long and faithful administration of this drug, yet the victims were never cured, nor ever markedly relieved. Nitroglycerine also entered the therapeutics of myxœdema. The theory upon which these two agents were employed was best explained by Dr. David M. Finley, of London.[1] He says: "Seeing that a diminished excretion of urea is one of the characteristic symptoms of the disease, we may take it that an increase is so far an indication of improvement, and it is interesting to compare the effect in this particular of the jaborandi and the nitro-glycerine respectively." The comparison shows a greater excretion of urea under jaborandi than under nitro-glycerine. This was then the very best treatment. The same writer concludes with the remark: "As to the prognosis, the tendency of the disease is toward a fatal result." What a change in the treatment, and what a difference in the prognosis! I think we can positively assert to-day that myxœdema can be cured, and that we can promise immunity from relapse, provided the patient puts herself to the inconvenience of taking five or ten grains of thyroid extract every week.

The discovery of the treatment exceeded in importance that of the disease. It opened a rich and vast field of possibilities. Who can tell but that in a short time most if not all of our therapeutics will be made up of animal extracts? If only every decade added a specific to our stock of remedies, such as we find in thyroid extract, the sarcastic but true remark of our departed colleague, Oliver Wendell Holmes, would have to be reversed, and say: "If all the medicines were thrown into the ocean it would be good for the fishes and bad for men."

156 Clinton Street.

SOME OBSERVATIONS CONCERNING A NEW TEST FOR THE DETECTION AND QUANTITATIVE ESTIMATION OF FREE HYDROCHLORIC ACID IN THE GASTRIC JUICE.

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The examination for free hydrochloric acid is of great importance in the diagnosis of diseases of the stomach; it is therefore necessary that the simplest as well as the most reliable methods for the estimation of this acid should be known. A new reagent has been recently described as reliable and simple. It is dimethylamidoazobenzol, and was first introduced into acidimetry by B. Fisher and G. Philipp;[2] it is highly recommended for the estimation of free hydrochloric acid in the gastric juice by G. Toepfer.[3] Toepfer uses the reagent as follows:

A 0.5 per cent. alcoholic solution is prepared. Three to four drops of this solution are added to the gastric filtrate. If a reddish color is produced free hydrochloric acid is present, if a yellowish discoloration, it is absent. For quantitative work, 5 to 10 c.c. of gastric filtrate are placed into a beaker. Three or four drops of the dimethylamidoazobenzol are added and the mixture is then titrated with a decinormal sodium-hydrate solution until the reddish color entirely disappears and the fluid becomes yellowish. The number of cubic centimetres of $\frac{1}{10}$ normal NaOH em-

[1] International Clinics, vol. ii., second series.

[2] Fisher and Philipp, Anal. Phar. 23, § 434.

[3] Toepfer: Eine Methode zur titrimetrischen Bestimmung der hauptsächlichen Factoren der Magenacidetat Zeitschrift für Physiologische Chemie, Bd. XIX., Heft 1, 1894.

ployed in this process for 100 c.c. of gastric filtrate multiplied by .00365 equals the percentage of free hydrochloric acid present.

Inasmuch as the phloroglucin-vanillin test of Günzburg[1] and the resorcin test of Boas,[2] are very accurate reagents for the detection of free hydrochloric acid, it is necessary that any new substances for the detection of this acid should at least be as accurate as the above-named. The following conditions must therefore be fulfilled:

1. The reagent must only react to free mineral (hydrochloric) acids, and to very small quantities of the same.

2. It must not react to organic acids or other substances likely to be present in the gastric contents.

Our first observations were made to determine the limits of accuracy of Toepfer's new reagent. Solutions containing known quantities of pure hydrochloric acid were prepared and tested in turn with phloroglucin-vanillin resorcin and dimethylamidoazobenzol. According to our earlier observation[3] 0.005 per cent. of hydrocloric acid can be detected in pure watery solution, when tested with resorcin, 0.004 per cent. with phloroglucin-vanillin; we have determined that 0.004 per cent. of hydrochloric acid can be detected with dimethylamidoazobenzol. This reagent is thus as sensitive to hydrochloric acid as the others. Inasmuch as the presence of other compounds, such as peptones, prevents the detection of higher percentages of hydrochloric acid by the phloroglucin-vanillin and resorcin tests, it was necessary to determine whether the same is true respecting the new reagent. Certain substances, such as albuminous compounds, combine with a part of the hydrochloric acid and neutralize it; in the examinations compiled in the following table we were therefore obliged to obtain the absolute quantity of free hydrochloric acid by a very accurate method, not relying on the quantity of hydrochloric acid added to the mixture. According to Kossler[4] the most accurate method is the calcium carbonate test of Leo, and this was employed for comparison.

Substances in combination with the watery solution of HCl.	Percentage of HCl at which a reaction may still be obtained.			
	Leo's $CaCo_3$ Test.	Resorcin.	Phloroglucin-vanillin.	Dimethylamidoazobenzol.
Water	0.002	0.005	0.004	0.004
Acid potassium phosphate, $\frac{1}{19}$ alkali.	0.009	0.07	0.04	0.01
Albumin, 1 AL + 200 H_2O.	0.003	0.08	0.06	0.01
Peptone, 2 per cent	0.003	0.17	0.17	0.009
Bread paste, 30 grammes to 200 c.c. H_2O	0.003	0.04	0.04	0.04
NaCl, 1 per cent.	0.003	0.003	0.007	0.003
Grape sugar, 1 per cent.	0.002	0.007	0.007	0.003
Starch paste, 2 per cent.	0.003	0.01	0.01	0.009

These experiments show that the dimethylanidoazobenzol test is more sensitive than Günzburg's or Boas's, and that it may, therefore, be employed for the detection of small quantities of hydrocholoric acid in place of the former reagents. In point of fact, it is almost as sensitive as Leo's test.

In order to show that dimethylamidoazobenzol reacts to free hydrocholoric acid only and not to this acid in the combined state, and to make the conditions similar to those present in the stomach, the following experiments, as carried out by Toepfer,[5] were repeated: A 0.5 per cent. solution of egg albumen was prepared and 5 c.c. were placed in ten beakers (1 to 10); then 1 drop of $\frac{1}{10}$ normal HCl was placed in the first beaker, two drops in the second, and so on, ten in the tenth beaker. Into each beaker a fourth of a gramme of pepsin was added and then a lamella of blood albumin. The beakers were then placed in the thermostat at 40° C., and allowed to remain there for six hours. In beakers 1 to 5 the fibrin lamellæ, though swollen, were not digested; the sixth showed slight traces of digestion, while in the remaining beakers the digestion was more marked, in the tenth the fibrin lamella being entirely dissolved. From each of the beakers portions were removed and tested for free hydrochloric acid with phloroglucin-vanillin, resorcin, and dimethylamidoazobenzol. The portions removed from the first six beakers showed no signs of free hydrochloric acid with any of the reagents, the portions from beaker 7 showed a slight reaction, while those from 8, 9, 10 showed marked reactions with all the reagents. It is therefore evident that dimethylamidoazobenzol reacts to hydrochloric acid when in the free state only; inasmuch as hydrochloric acid was present in the first six beakers, it must have been in combination with other substances.

To determine whether dimethylamidoazobenzol gives a reaction to organic acids, solutions of various strengths of lactic and acetic acids were prepared from 0.05 to 1 per cent. and tested with the reagents. A reaction could only be noted when these acids reached a concentration of 0.5 per cent. when the yellow color changed to red; this was the more marked the nearer the solution reached 1 per cent. It was found, however, as Toepfer has already pointed out, that when albumin or peptone were present in the mixture, even in small quantities, even greater concentrations could not be detected with this indicator. Thus only a 0.7 per cent. solution of these acids when added to an egg albumen mixture (albumen, 1 gramme; water, 200 c.c.) gave a reaction with dimethylamidoazobenzol, and only an 0.8 per cent. when added to a 5 per cent. solution of peptone. It is therefore evident that while dimethylamidoazobenzol gives a reaction with organic acids, it does so when in such concentrations as are never present in the gastric contents. This fact does not therefore interfere with the accuracy of this test for the gastric juice.

In order to practically test the accuracy of this reagent for quantitative work we have made a number of quantitative estimations of the free hydrochloric acid in a number of specimens of gastric juice, comparing the results obtained by dimethylamidoazobenzol with those gotten by phloroglucin-vanillin[1] and Leo's method.

Number.	Acidity determined by phenolphthaline.	Percentage free HCl according to Leo.	Percentage free HCl according to Mintz.	Percentage free HCl by means of Toepfer's reagent.
1	27	0.08793	0.08298	0.08662
2	66	0.22653	0.18645	0.02154
3	38	0.10526	0.07416	0.10279
4	84	0.31695	0.30147	0.30982
5	40	0.12511	0.10627	0.12116
6	60	0.19842	0.11564	0.17597
7	69	0.20987	0.18649	0.19998
8	49	0.15527	0.11682	0.14976
9	88	0.33972	0.30642	0.31217
10	32	0.09217	0.01527	0.07549
11	24	0.07542	0.04687	0.07154
12	44	0.15427	0.12684	0.13879
13	85	0.29765	0.28967	0.29482
14	41	0.12987	0.12241	0.12417
15	74	0.20984	0.20479	0.20878
16	60	0.20427	0.20115	0.20398
17	56	0.19876	0.16854	0.18989
18	75	0.21547	0.21029	0.21264
19	94	0.34687	0.32698	0.34221
20	87	0.30549	0.30082	0.30218

The last table shows that very accurate results are obtained by the use of dimethylamidoazobenzol. The examination is made as follows:

To 10 c.c. of gastric filtrate three to four drops of a

[1] Günzburg's reagent consists of phloroglucin, 2; vanillin, 1; alcohol absol., 30.

[2] Boas's reagent consists of resorcin resub., 5; sacchar. alb., 3; alcohol dilut., 100.

[3] The Use of the Resorcin Test for the Detection and Quantitative Estimation of the Free Hydrochloric Acid of the Gastric Juice. MEDICAL RECORD, October 6, 1894.

[4] Kossler: Zeitschrift für Physiologische Chemie, Bd. XVII., S. 107.

[5] Toepfer: Zeitschrift für Physiologische Chemie, Bd. XIX., Heft 1, 1894, p. 114.

[1] The method employed in using the phloroglucin-vanillin was that recommended by Mintz, Wiener klin. Wochenschrift, 1889, No. 20, and 1891, No. 9.

0.5 per cent. alcoholic solution of dimethylamidoazobenzol are added; if free hydrochloric acid is present, the mixture becomes red. It is then titrated with a decinormal sodium-hydrate solution until it turns distinctly yellow. The number of cubic centimetres of $\frac{1}{10}$ decinormal NaOH employed for 100 c.c. of gastric filtrate multiplied by 0.00365 gives the percentage of free hydrochloric acid present.

If, for example, 7 c.c of $\frac{1}{10}$ normal NaOH had been used, then the amount of free hydrochloric acid is equal to seventy (for 100 c.c. gastric juice) multiplied by .00365, which equals 0.2055 per cent.

The total acidity of the mixture may now be determined by adding a few drops of phenolphthaline to the same mixture and titrating further with the $\frac{1}{10}$ normal NaOH solution until a red color is produced.

Inasmuch, therefore, as dimethylamidoazobenzol is a very accurate reagent for the determination of free hydrochloric acid, and as by its use the method of making quantitative examinations is greatly simplified, we highly recommend it for this purpose.

In conclusion, it is of importance to state that we have used filter-paper dipped into the solution of dimethylamidoazobenzol and allowed to dry, with great advantage, as a test-paper for the detection of free hydrochloric acid.

Progress of Medical Science.

The Treatment of Injuries of the Lower End of the Humerus.—Dr. Hutchinson (*British Medical Journal*) treats of the common fractures about the elbow-joint. The most frequent one is a more or less transverse fracture at or about the olecranon and coronoid fossæ. In subjects under ten years this will be a detachment of the lower epiphysis. Sometimes the chief feature of a fracture into the elbow-joint is the complete detachment of the articular surface of the radius, the special risk of which is the failure to secure bony union. Looking at the rapid supervention of swelling about the elbow that follows these injuries, it will probably be agreed that for the surgeon to effect a proper diagnosis and reduction he must administer an anæsthetic as soon as possible after the accident. In the treatment of these fractures the author advises against the use of all complicated splints and dressings, and favors a movable felt or tin splint. As to the position of the forearm, the author recommends moderate pronation, so that the thumb is up. Experiments show that either extreme pronation or supination tends to laterally displace the lower fragment of the humerus. The very commonly used internal rectangular splint provides for this position, but it is not an ideal one, as there is certainly a tendency with its use to have more or less lateral displacement of the lower fragment (especially inward). The author favors the position of flexion rather than extreme extension, because it is much easier to carry out, more comfortable for the patient, and has so far given the best results.

After certain fractures at the lower end of the humerus it may be laid down as a rule that bony union is not to be expected. These are mainly: 1. Fracture or separation of the epiphysis of the internal epicondyle. 2. Intra-articular fractures of the capitellum. The first is by far the most frequent, and, in the author's experience, the little fragment is almost invariably drawn down toward the ulna, and unites by fibrous tissue. Usually this displacement gives rise to but little trouble. Several cases have been reported where the displaced fragment pressed upon the ulnar nerve, causing ulnar paralysis. When the fragment is removed, recovery is usually complete. The capitellum when broken usually remains as a loose body in the joint, producing sometimes much trouble in movement. In neither of these fractures is any splint certain to be effectual. The only plan which promises bony union in good position is to fix the detached fragment with a needle or peg to the surface of the humerus from which it has been broken off. In the majority of cases passive motion should not be begun until about the end of the third week. As regards compound fracture, the old rule of primary excision is not to be accepted. The removal of all loose fragments and good drainage will give much better results.

In old cases of fracture about the elbow, where persistent limitation of movement remains, the cause is probably to be sought in one of the following conditions: 1. Pressure upon the ulnar nerve by projecting bone or callus. Time and massage usually overcome this difficulty. 2. Thickening of the capsule in front and behind, with abnormal adhesion of muscles surrounding the joint. To be relieved by massage and passive motion. 3. Intra-articular fibrous adhesions or alterations in the cartilaginous surface of the trochlea. 4. Actual bony impediment to flexion.

The Celestial Method of Detecting Opium.—In the forty-second issue of the "Chinese Imperial Maritime Customs Medical Reports," published at Shanghai, Dr. George R. Underwood gives an interesting account of the medico-legal method employed by the Chinese mandarin for the detection of opium in the corpse of a person alleged to have died of the poison. We commend it to our chemists for its novelty and the ease of its carrying out; leaving its accuracy to the test of time, experience, and medico-legal wisdom.

There had been sorrow and confusion in the family of Huang-Hu. The mother, a woman (for even in China the mothers are women), was dead. The questions were, why did she die? how did she die? and, perchance, by whom did she die? So the court of the mandarins was assembled. Under the stern direction of the mandarin judge, the mouth, nostrils, vagina, and rectum of the unprotesting corpse were tightly plugged with wet paper, and two probes of untarnished silver, about twelve inches long, were passed for nearly their full length—one into the rectum, the other into the mouth. Next, the head and trunk were wrapped in sheets of wet paper, the whole body enveloped in quilts, and boiling water, kettleful after kettleful, was poured as quickly as could be procured over the corpse. The temperature was 95° F. in the shade; the afternoon sun was broiling hot; dinner had been postponed; no wonder the temper of the Chinese mandarin was only prevented from boiling over by a series of acrid remarks to the corpse, the attendants, and the world in general. The pouring and the objurgations went on *pari passu* for an hour and a half, when the face was uncovered, and the probe passed in through the mouth found to be untarnished. After sundry head-shakings and expostulations, the probe was replaced; again the stream of heated water and heated words splashed on the bystanders until another fifteen or twenty minutes had passed, when the mouth probe was again brought to light; and in its blackened surface celestial wisdom read the story of opium poisoning; a story which received further confirmation when from the uncovered swollen body the rectal probe was taken out and found badly stained.

After it was shown that the woman truly was dead of opium, the hunt grew hot for the author and source of the poisoning. The sleuth-hounds of the Law Department of the University may well be interested in the unwindings and outgoings of the court hereafter; but for the medical man the interest of the case ceases with the determination of the death; and so, as with the Lady and the Tiger, we leave unsolved the why, the wherefore, and by whom the death came.—*University Medical Magazine.*

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE INFECTIOUSNESS OF MILK.

EIGHT years ago the Massachusetts Society for Promoting Agriculture established an experiment station at Forest Hills, and undertook an investigation of the subject of the infectiousness of milk. The work was done under the direction of Dr. Harold C. Ernst, with Dr. Austin Peters, veterinarian, as first assistant. Much help was given also by Dr. Henry Jackson and Langdon Frothingham, D.V.M.

The results were in the main reached in 1891, but the report was not written until November, 1894, and has just appeared from the press in a handsomely printed volume of one hundred and forty-one pages, with numerous illustrations. Though the title of the report is "The Infectiousness of Milk," we find that the investigations were confined to the question of tuberculosis.

The subject was studied along two lines: 1, As to whether cows with tuberculous udders could infect with their milk; and 2, whether cows with apparently or really healthy udders, but having tuberculosis elsewhere, could communicate their disease. As to the first question, there existed already sufficient facts to prove that the milk from a tuberculous udder was infectious. Most of the work was directed, therefore, to solving the second problem. In order to determine whether the infectious element of tuberculosis ever existed in milk from tuberculous cows whose udders were apparently healthy, inquiries were prosecuted under the following headings: 1. A careful and persistent microscopic examination of the milk from such cattle. 2. Inoculation experiments with such milk. 3. Feeding experiments with the same milk. In addition to these three main lines of investigation, there was also undertaken: 4. Similar investigations of the milk-supply of Boston; and 5. The gathering of as much evidence as possible from medical men and veterinarians as to cases of probable infection through tuberculous milk that had come under their observation.

There were one hundred and twenty-one microscopical examinations of milk and cream made, the specimens coming from thirty-six different animals. Bacilli were found in the milk from twelve animals, *i.e.*, one-third of the total. These animals were all infected with tuberculosis, but their udders were free from disease.

In addition to this, eighty-eight guinea-pigs were inoculated with the milk from fifteen cows, and tuberculosis developed in twelve guinea-pigs. Six out of the fifteen cows communicated the disease. Milk-feeding experiments were made upon rabbits, pigs, and calves. About four per cent. of the rabbits, fifty per cent. of the pigs, and thirty-three per cent. of the calves became infected.

An interesting investigation was made also of the general milk-supply of Boston. Among thirty-three samples from various sources, tubercle bacilli were found once; and among twenty-five rabbits inoculated with milk from mixed sources, three became infected.

One may infer from this that of the general milk-supply of a large city three per cent. or upward of the samples will contain bacilli and prove infectious.

The last branch of the inquiry was clinical in character. Circulars were sent to eighteen hundred medical men and veterinarians, asking if they knew of any cases in which human beings had been infected with tuberculosis through the milk of cows.

Among one thousand and thirteen replies from physicians, eight hundred and ninety-three were negative, eleven reported cases of infection by cow's milk, and eight reported cases of infection of a child by the mother.

The veterinarians gave much more striking evidence. Among fifty-four replies, fourteen reported positive, and nine suspicious cases.

The medical profession is quite ready to accept evidence of the dangers of milk from tuberculous cows; but the very thorough investigation made under the auspices of the Massachusetts Society places the matter on a positive basis, and furnishes ample ground for the most scrutinizing attention by boards of health to the subject of the milk-supply of the community.

THE URIC-ACID DIATHESIS.

THE morbid changes in metabolism known in a general way as the uric-acid diathesis have of late been the subject of valuable and important research. These investigations, and a plan of treatment based upon the newer view, are set forth by F. Levison, Kreisarzt in Copenhagen, in a work just issued,[1] entitled "The Uric-acid Diathesis." It is ably translated into English by Lindley Scott, and presents a logical summary of the latest information upon the pathology of uric acid and upon the action of drugs recommended in treatment.

Uric acid is one of the normal constituents of the urine, and nothing justifies the supposition that it is formed only in the kidneys. The reason why it is not found in the blood of healthy subjects is that present methods of analysis are not sufficiently accurate to detect it in the minute quantity of blood allowed to the analytical chemist by an apprehensive and blood-sparing public. What is the genesis and physiological signification of uric acid? How and where is it formed? The most complete and important researches into this question have been made by Horbaczewski and his pupils. Uric acid, as well as xanthin and hypoxanthin, can be prepared from spleen pulp. What constituents of the spleen can become decomposed into xanthin bases or uric acid? The nuclein of its lymphatics.

[1] Cassell & Co.

Outside the body, uric acid can be prepared from nuclein taken from any and every tissue. Does a similar decomposition take place in human beings? Investigations show that uric acid is increased when nuclein is taken as food or injected subcutaneously. It is probable, from Horbaczewski's experiments, that uric acid is formed in health by the disintegration of the nuclein which exists in different quantities in all the tissues. The amount bears a close relation to the number of white blood-corpuscles; for many observers have already demonstrated the fact that a temporary or permanent leucocytosis is always accompanied by a corresponding increase in uric acid or xanthin bases. Other new experiments show that the daily excretion of uric acid is comparatively independent of food. On the contrary, urea is proved to be entirely dependent upon the albumin consumed, rising and falling in proportion to the quantity of the nitrogeneous food digested. These investigations strongly indicate that uric acid is formed by the destruction and disintegration of all the constituents of the body. These processes are decidedly influenced by food; but not in proportion to the amount of albumin taken in. It is the urea excreted that can be doubled, or increased even in higher degree, through the agency of a large quantity of easily digestible albuminous material.

Do the urea and the uric acid excreted in urine stand in constant proportion? Haig has arrived at such an estimate, placing the normal ratio as 1 of uric acid to 33 of urea. This theory is completely overthrown by the experiments of Horbaczewski, Bleitren, Schultze, Hirschfeld, and Busquet. The excretion of uric acid in each individual is a fairly constant quantity, while that of urea has a wide range of variation. There exists, however, a constant proportion between the number of white blood-corpuscles and the amount of uric acid. The production of uric acid is increased in a whole series of abnormal conditions characterized by the formation and destruction of large numbers of leucocytes, as leucocythæmia, anæmia, pneumonia, carcinoma, and extensive burns. Certain poisons increase it: Carbon monoxide, pilocarpine, alcohol. Exercise also adds to its production.

Chemically and physiologically, it is usual to describe uric acid as a dibasic salt which can form neutral and acid salts with the alkalies. The researches of Roberts establish that normally uric acid exists in the blood as a quadriurate, and as such is excreted in the urine. Under special conditions the quadriurate is split up within the body into biurate and uric acid, and the latter is then eliminated by the kidneys; or the quadriurate may be transformed in the blood into biurate, which gives rise to the deposition of this difficultly soluble compound in different parts of the body.

The excretion of uric-acid is influenced by age, diet, physiological states, by medicines, poisons, and various diseases. The constitution of blood and urine may be so altered that uric-acid salts may be readily decomposed or deposited. All physiologists are agreed that an abnormal quantity of uric acid is found in the blood in gout; and all observations indicate that the gouty symptoms can arise only from this chemical constitution of the blood. Roberts's experiments show that an excess of uric acid in serum cannot remain long in solution. If the uric acid is not eliminated by the kidney, the increased quantity tends to its deposition in the body as a biurate. There are only two ways in which this overcharging of the blood by uric acid appears possible. It must either be formed so abundantly that some is stored up in the blood, although the normal quantity is still excreted, or, the production being normal or even diminished, an abnormal quantity is retained in the blood, owing to functional irregularities of the kidneys. Increased production of uric acid alone never leads to gout. Changes in the kidneys are more likely to be its cause. Recent observations show that the excretion of uric acid is likely to be less in daily amount in gout than in health. The kidney disorder need give rise, at its commencement, to very few anatomical changes, as the primary cause is a decrease in the secretory power of the kidney, whereby certain constituents of urine are less easily eliminated. Against this supposition that retention of uric acid is the origin of gout, the reply has been made that the disease would progress quickly and uniformly if this were the case. Why, when its production is so markedly influenced by various conditions and diseased processes, and when it may frequently return to the normal? The entire extent of the kidney is not simultaneously attacked. One kidney alone can take up the function of the other for a time. Though this pathogenesis of gout requires further proof, it has the advantage over other theories that it brings into one category all the etiological and pathogenetic factors with which we are acquainted, and gives a plausible explanation of the gout of wealth, the gout of poverty, and the gout of lead-poisoning. It also makes possible a rational form of treatment.

If the possibility of a retention of uric acid is once admitted, then every circumstance which causes a temporary increased formation of uric acid will naturally take effect, so that the blood can no longer hold in solution the quantity with which it is charged. The uric acid is then deposited as biurate, and the blood by this means rendered pure for some time. This is the explanation of feeling better after an attack of gout. If the deposition of biurate goes on slowly without hindering the circulation in the small lymph channels, the patient experiences but little discomfort during the formation of new tophi or the increase in size of old ones. When the deposition suddenly obstructs the lymph channels, pain and inflammatory symptoms set in, and a typical attack is established. In this manner the extensive use of alcohol or excessive bodily or mental work may precipitate an attack.

The biurate crystals become deposited chiefly in different kinds of cartilage, ligaments, tendons, skin, and subcutaneous tissues. The tissues bathed in synovia are especially liable to infiltration. The explanation of this, according to Roberts, is to be found in their chemical composition. The tissues rich in soda are earlier attacked than those which contain a smaller quantity of the salts of soda. Roberts gives the proportion of sodium salts in different tissues as follows:

Serum	contains	0.70	per cent.	sodium	salts.
Lymph	"	0.70	"	"	"
Synovia	"	0.80	"	"	"
Cartilage	"	0.90	"	"	"

Fibrous tissues	contain	0.70	per cent.	sodium	salts.
Blood-corpuscles	"	0.20	"	"	"
Muscles	"	0 08	"	"	"
Brain	contains	0.20	"	"	"
Spleen	"	0.04	"	"	"
Liver	"	0.02	"	"	"

Synovia, containing more sodium salts than serum or lymph, is also enclosed in a cavity with but little opportunity for movement or renovation. When saturated with uric acid, it can rid itself of the excess by depositing biurate crystals in the joint cavity. The knee and the metatarso-phalangeal joint of the large toe are chiefly affected in gout. These joints are particularly subject to strain; especially that of the great toe, which is more liable to injury than any other. Wounds, blows, and continuous pressure appear to predispose to gouty affections; and so also does a sedentary life without sufficient exercise. In other cases any hindrance to the circulation will favor the onset of gouty disturbance. Charcot reports gout in a hemiplegic in whom the joints on the paralyzed side only were attacked. At autopsies, sometimes no pathological changes are found in the joints, cartilages, fibrous tissues, etc., of persons who suffered severely from gout during life. Either the biurate has become again dissolved, or it has been deposited in tissues not examined at the autopsy, or in regions remote from joints. About the articulations autopsies may reveal biurate deposits that caused no pain whatever during life. Inflammatory phenomena and pain are brought about quite mechanically (Roberts), the biurate crystals acting as a foreign body, obstructing the lymph canaliculi, and giving rise to thrombosis.

Against the hereditary predisposition existing in many cases of gout, practically nothing can be done. Alcohol is fraught with peculiar dangers to those who have gout or a predisposition to it. Alcohol increases the production of uric acid, and by its continued use also diminishes the excretory power of the kidneys. Every form of prophylactic treatment which lessens the risk of kidney disease is indicated, as stimulation of the skin by baths and dry friction, woollen underwear, open-air exercise, gymnastics, and as far as possible an open-air life. Every over-exertion must be avoided. Excess in exercise is dangerous, because it can suddenly increase the production of uric acid to such an extent that the kidneys cannot excrete the amount produced, and thus acute attacks of gout may immediately follow.

Concerning diet there can be no fixed rules, except that of eliminating alcohol. A rational mixed diet, in which the usual nutritive elements are uniformly distributed, is the best. Sufficient and varied food is especially necessary after repeated acute attacks, or when the disease has become chronic. As the salts of lime and magnesia do not hasten the precipitation of biurate crystals in the blood, patients can be sent without hesitation to Nenndorf and Contrexeville. Sulphur springs can also be recommended. The best are those which contain a limited proportion of soda salts, as Gurnigelbad in Switzerland, Aix-les-Bains, and St. Sauveur. A mineral spring can be serviceable to the uric-acid diathesis in three ways: (1) by adding to the blood those substances which can keep the quadriurate in solution and unchanged; (2) by increasing the secretion of urine and the amount of uric acid eliminated by the kidneys; or (3) by strengthening the patient.

During the acute attack, interfere as little as possible. Warmth, rest, elevation of the part are classic measures. Lithia, piperazin, soda salts are perfectly useless; the latter are distinctly harmful. Trousseau notes that the bicarbonate of soda merely changes the typical attack into chronic malaise; and this opinion is shared by Golding-Bird and Owen Rees. Reference has already been made to Roberts's experiments, showing that soda salts always hasten the precipitation of biurate in serum. Colchicum shortens an attack, given when the pain begins to subside. It is said to invite a fresh seizure a little later; but this is often preferable to the half-chronic condition.

Ichthyol ointment sometimes relieves the pain. Opium preparations are always to be dreaded. Massage will hasten convalescence when only stiffness and pain are left. As soon as the patient can get up, judicious walking about and change of position will cause redness and aching sensations to disappear more rapidly than remaining in bed until all inflammatory symptoms are gone. A remedy that seems rational is potassium, either iodide, bromide, acetate, or carbonate. Roberts, in his experiments, found that all the salts of potash, irrespective of the acid with which they are combined, delay the deposition of the biurate outside the body. Abundant clinical evidence proves that this is also true within the human organism. Potassium salts are and must ever remain of peculiar value in the uric-acid diathesis.

What, then, in brief, is rational treatment based upon the newer view? Extreme care of the kidney; avoidance of sudden and excessive mental or physical effort; minute attention to the hygienic care of the skin; change of air and change of scene at stated intervals; an out-door life whenever possible; abundance of varied well-cooked food; plenty of pure water, but no alcohol; and the practical discarding of all drugs except potassium. In connection with diet, it is well to remember that sodium chloride is one of the substances which hold the biurate in solution. Several small meals, four or five a day, are better than a few hearty ones.

Urine is more acid after fasting; and the degree of acidity plays an important part in the pathogenesis of uric-acid precipitation. Hence the inadvisability of allowing twelve hours or more to elapse, from dinner to breakfast, without taking food. Dress is also important. It should be light, warm, perfectly fitting, and without constrictions about the joints.

The Ohio State Medical Society will hold its semi-centennial meeting in Columbus, on May 15, 16, and 17, 1895. It is proposed to celebrate the society's completion of fifty years of existence in a worthy manner. Members of the profession from other States are cordially invited to be present and assist in the exercises. The programme promises to be an interesting one. The president of the society is Dr. D. N. Kinsman, of Columbus, and the secretary, Dr. Thomas Hubbard, of Toledo.

SPRING SONGS.

THE signs of spring appear. The colleges begin to "commence," and the medical societies are arranging for their annual meetings. Before the summer is over one hundred and forty medical colleges or thereabouts will have graduated classes, and forty-three State and Territorial Societies will have held their meetings.

These prospective occasions, though jocund and joyous to the individuals to be involved, have rather a dampening effect upon the vernal enthusiasm of the reflective. Each Commencement will be attended with music and oratory, flowers, fair women, and hopeful young men. We read each year of the glories of our calling, the industry and promise of our medical students, the disinterested and successful labors of the Alma Maters. But we think of the one hundred and forty individual Alma Maters, one hundred being superfluous and only fourteen being nutrient mothers for four years. The gestation, it seems to us, is too short and the lactation too tenuous to induce one to be jubilant about the offspring. The genius of the American medical Commencement is a woman, young, but emaciated by a rash polyparousness, haggard and wan over the multiple strain of inadequate lactations; insufficient for what she has, yet consumed with a desire for more. The old lady who lived in a shoe was a model of peace, plenty, and resourcefulness in comparison.

Our medical meetings give less concern, for at these the doctors often find how little the Alma Mater did for them. They meet and criticise and join in social reunions which brighten and broaden their lives. The readers of papers are doing themselves a good turn, the listeners expiate their sins, the medical journals publish, and many still retain their circulation. The medical societies this year, we notice, have all a promise of unusually interesting meetings, of valuable papers, and large attendance. We recollect reading these same words a year and also two years ago. It is the swan song of the secretary before his term expires and the doctor from another county is elected in his place. Every year it rings musically in the ear, and this spring, we notice, with a verity and forcefulness quite beyond precedent. We trust our medical societies will all have good and fruitful conferences during the coming season.

DISEASE AND FICTION.

THE disciples of modern realism have searched heaven and earth, the sea and all that in them is, to say nothing of the waters under the earth, for striking subjects and harrowing details. More than this, and worse, they have invaded the realm of morbid conditions of mind and body, and have delineated the unlovely with an amount of patience and skill well worthy of a better and more æsthetic cause. A close acquaintance with human nature has always been considered necessary for the successful novelist. Nowadays it would seem that an accurate knowledge of pathology must be added to this equipment, and that in order to soar it is first necessary to sink. Our esteemed contemporary, the *American Medico-Surgical Journal*, says sarcastic and telling things in a recent issue concerning this unfortunate, though probably evanescent tendency, that has made of three fairly well-known books a presentation of symptoms rather than an artistic venture. The pulmonary record had another name, it is true; so also did the syphilitic novel and the morbid portrayal of defrauded instincts. There is danger in this medical movement. Young writers may attempt to cover too wide a field and forget the inexorable law of specialism. "To introduce a paretic or ataxic patient into a dermatological novel would not only destroy the unity of the story, but justly expose the author to a want of thoroughness. If the writer has determined upon appendicitis as his plot, he should not waste his energies upon irrelevant diseases in his minor characters. He could gain variety by introducing other forms of enteric disorders, but he should never exceed the limits of the abdominal region." And a sarcastic lament is made that, as yet, there exists no novel of the ear, no drama of the digestive organs, no romance of the kidneys, no pastels of the intestines. Blindness, idiocy, simple mania with delusions, visions and bright lights of hysteria and epilepsy, have each in turn served the modern writer of fiction. Later, it is not unreasonable to expect that several ailments in one book may further the general interest of the twentieth-century romance, when each department of pathology shall have its own special novel.

THE INTERNATIONAL LANGUAGE.

WE have watched with interest the discussion that has been and is still going on in the pages of many of our contemporaries on both sides of the water relative to the vexed question of an international language. We have weighed carefully the arguments of our French brethren in favor of the adoption of their own exquisite tongue; we have read with the satisfaction of a duty done the letters upon this subject, many of them pointless and inconsequential, that have appeared in the *British Medical Journal;* we have pursued with a mournful interest a letter written by Billroth, almost on his death-bed, expressing a preference for Spanish next after English; we have listened with respectful attention to the editorial preferences of many of our esteemed contemporaries in this country, and we have not yet encountered any valid objection to modern Greek.

To judge from the tone of many of the criticisms one would suppose that this is a new idea, but such is by no means the case. Thirty years or more ago M. Gustave d'Eichthal, a learned Hellenist of Paris, argued at great length and most cogently in support of the proposition to adopt modern Greek as the common tongue of learned men throughout the world. One of his arguments was that an international language must be one that does not offend national prejudices, therefore neither of the three leading languages can be adopted, since whichever might be selected the patriotic pride of the other two nations would be wounded. In the case of modern Greek, however, this difficulty would not exist, since no nation could be jealous of another so insignificant territorially as Greece. But even d'Eichthal was not the first to make such a proposal, for Voltaire suggested the idea several times in his letters to the Empress Catharine of Russia at the

time when it seemed probable that she would take Constantinople and with it all the Turkish possessions in Europe. Those timid souls, therefore, who fear a new idea, whatever its merits, need not run from this one, since it is more than a century old, not to mention the many partisans of Greek who preceded Voltaire.

News of the Week.

Obituary Notes. — Dr. Josiah H. Gautier died, on April 1st, at his home in this city, after a long illness. He was in his seventy-seventh year.—Dr. John Adams Ryder, Professor of Embryology at the University of Pennsylvania, died, March 26th, of dyspepsia, in Philadelphia, after an illness of ten days. Professor Ryder was known as one of the foremost embryologists in the scientific world.—Dr. William S. W. Ruschenberger, a retired naval surgeon and scientist, died recently at his home in Philadelphia, aged eighty-seven. He was retired in 1871. He was an active worker in the Academy of Natural Sciences of Philadelphia, of which he was president for a number of years.

The Late Dr. Bernard E. Vaughan.—At a stated meeting of the Society of the Alumni of St. Luke's Hospital, held March 12, 1895, the undersigned committee was appointed to formulate and publish appropriate expressions of sorrow in reference to the death of Dr. Bernard E. Vaughan. In accordance with this authorization the committee have adopted the following preamble and resolution :

Whereas, In the wisdom of Almighty God it has been decreed to remove from among us our esteemed associate, Dr. Bernard E. Vaughan, who has been so thoroughly identified with the interests of the Society and with the work and advancement of the profession to which we belong,

Be it therefore resolved, That in the death of Dr. Vaughan we have met with a great loss, in one whom we valued as a friend and respected for his earnest and untiring work.

Resolved, That the Society extend to his bereaved family its sincere sympathy and condolence.

Resolved, That this preamble and resolution be entered upon the minutes of the Society, and be published in the New York MEDICAL RECORD and the New York *Medical Journal.*

WILLIAM H. CASWELL, M.D.,
THOMAS S. SOUTHWORTH, M.D.,
J. VAN DOREN YOUNG, M.D.,
Committee.

New Medical Law in Montana.—The Legislature of Montana recently passed a new medical practice act, in which many of the defects of the old law, which rendered the prosecution of offenders almost impossible, are remedied. Applicants who shall have been graduated after July 1, 1898, will be obliged to show proof of having attended four courses of lectures, of six months each. The board of examiners will meet in Helena on the first Tuesday of April and October of each year, and at such other times and places as the board itself may determine.

The Archives of Pediatrics.—With the May issue of this journal, it passes under the editorial charge of Dr. Floyd M. Crandall, recently managing editor of *Gaillard's Medical Journal.*

State Medical Societies.—The following State societies hold their annual meetings in April : Medical Association of Montana, April, 1895, Anaconda, Mont.; Medical Association, District of Columbia, April 2, 1895, Washington, D. C. ; Tri State Medical Society, April 2–4, 1895, St. Louis, Mo.; Tennessee State Medical Society, April 9, 1895, Nashville, Tenn.; Mississippi State Medical Society, April 10, 1895, Jackson, Miss. ; Florida State Medical Society, April 16, 1895, Gainesville, Fla.; Medical Society of the State of California, April 16, 1895, San Francisco, Cal.; Medical Association of the State of Alabama, April 16–19, 1895, Mobile, Ala.; Iowa State Medical Society, April 17, 1895, Creston, Ia. ; Medical Association of Georgia, April 17–19, 1895, Savannah, Ga.; Medical and Chirurgical Faculty of Maryland, April 23, 1895, Baltimore, Md. ; Texas State Medical Society, April 23, 1895, Dallas, Tex.; South Carolina Medical Association, April 24, 1895, Columbia, S. C.

The New Examiner in Lunacy at Bellevue Hospital.—Dr. Alexander Trautman has been appointed a public examiner in lunacy at Bellevue Hospital, in place of the late Dr. Matthew D. Field. For a number of years he was one of the resident staff at the city asylum on Ward's Island.

The Late Dujardin-Beaumetz.—The friends and pupils propose to place a marble bust of the late Professor Beaumetz in the Hôpital Cochin, where so much of his work was done.

Alleged Death from Antitoxin.—A girl aged seventeen, living in Brooklyn, died apparently from the effects of an injection of antitoxin administered by her physician. The patient was suffering from diphtheria. Five minutes after injecting the serum, she had a convulsion, and five minutes later she was dead. The serum used is said to have been the Behring, and was imported. The autopsy proved that antitoxin was not the cause of death.

Oregon's New Medical Law.—Oregon can now boast of a law which places this State abreast of its neighbors regarding the qualifications required of practitioners coming into the State to begin the practice of medicine.

A Hospital Car has been built for the Savannah Florida, & Western Railway. The car has a wide door at the side for the admission of patients ; it is provided with a properly equipped operating-room and accommodations for the patients. This road is the first to equip and put into service a hospital car.

A Free Clinic for Electro-Therapeutics has been opened at 327 East Twenty-fifth Street by Dr. M. A. Cleaves.

The State Medical Library.—The supply bill appropriates $5,000 for the medical library.

The Epileptic Colony has the sum of $14,000 appropriated for its use the coming year.

Reviews and Notices.

THE RETROSPECT OF MEDICINE. A Half-yearly Journal Containing a Retrospective View of Every Discovery and Practical Improvement in the Medical Sciences. Edited by JAMES BRAITHWAITE, M.D., London, Obstetric Physician and Surgeon to the Leeds General Infirmary; late Lecturer on Diseases of Women and Children, Leeds School of Medicine, etc. Vol. CX., July–December, 1894. Issued January, 1895. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited.

THE Retrospect differs from all other medical journals, and in many respects the difference is to the advantage of the Retrospect. It contains no news, no letters to the editor, no original articles, and comes out only once in six months. But when it comes it comes as a neatly bound volume, and the series in time makes a valuable addition to the library.

Of course the whole of medical literature cannot be summarized, but the selections in the subdivisions under General Medicine, Surgery, Obstetrics, and Gynecology have been made with skilful care.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, at its Eighteenth Annual Meeting, held at the Arlington Hotel, Washington, D. C., May 29, 30, 31, and June 1, 1894, in connection with the Congress of American Physicians and Surgeons. Official report of the proceedings. By CHARLES WARRENNE ALLEN, M.D., Secretary. New York: Press of George L. Goodman & Co.

THE present report is a credit to American dermatology. The average of the dozen papers is high. The discussions, though not extendedly reported, are pertinent. The illustrations, which are numerous and include several colored pictures, add much to the general good appearance of the volume, which, so far as we recall, is the most attractive one the Association has yet issued. The illustrations of microscopical sections are especially commendable.

A PRACTICAL MANUAL OF MENTAL MEDICINE. By DR. E. RÉGIS, formerly Chief of Clinique of Mental Diseases, Faculty of Medicine, Paris, etc. With a Preface by M. BENJAMIN BALL. Second Edition. Authorized Translation by H. M. BANNISTER, A.M., M.D., Utica, N. Y. Press of the American Journal of Insanity. 1894.

THIS interesting and valuable work on insanity received the Chateauvillard prize in 1886. Part first is devoted to mental pathology, general and special, and to the historical exposition of mental disease. Part second deals with the practical applications of mental pathology, preventive treatment, and curative treatment; and with medico-mental deontology, medico-legal practice, and medico-legal expertism. Régis's classification has much to recommend it, as only absolutely primary conditions are retained. Secondary states are ranked apart. These are morbid associations composed of two elements: (1) a vesanic element represented by any variety whatever of primary alienation (usually mania or melancholia), always identical fundamentally with itself; (2) a physiological or pathological element that serves, so to speak, as a substratum and varies according to the case. The first great division or class of mental diseases comprises functional alienations, and includes insanities, vesanias, psychoses. These are generalized or symptomatic (mania, melancholia, insanity of double form), or partial or essential (systematized progressive insanity). The second great division contains constitutional alienations: degeneracies, deviations, mental infirmities. These are vices of organization or degeneracies of evolution and vices of disorganization. The vices of organization are disharmonies, neurasthenias, phrenasthenias, and monstrosities (imbecilities, idiocy, cretinism, myxœdema). The degeneracies of disorganization are the dementias. Each form of mental abnormity is graphically described, and its course and possible and probable termination made thoroughly plain. Statements in regard to treatment are of the utmost practical utility. The book is not particularly well translated, which does not materially lessen its value to one who is a thorough French scholar. To others, however, the literal rendering of French terms into English may often prove a stumbling-block and a barrier to a correct understanding of the text. In any form, Régis's work is an important addition to the literature of the subject of which it treats; and is, in fact as well as name, a practical manual of mental medicine.

ATLAS OF THE DISEASES OF THE SKIN. In a Series of Illustrations from Original Drawings with Descriptive Letterpress. By H. RADCLIFFE CROCKER, M.D., F.R.C.P., Physician to the Department for Diseases of the Skin, University College Hospital; formerly Physician to the East London Hospital for Children; Examiner in Medicine at Apothecaries' Hall, London. Edinburgh and London: Young J. Pentland. New York: Macmillan & Co.

DR. CROCKER has written an excellent text-book on dermatology, which is well known in this country, so that, while an elaborate atlas of colored plates comes to us here as something of a surprise, so quickly following upon those of several well-known New York specialists, we are prepared to look for work of a superior quality, and worthy of special recognition.

At best, an atlas can portray but a limited number of affections, and usually we must be satisfied with a picture of one of the varieties or phases which a given disease may be capable of assuming. In the same way the descriptive text, printed in large type, as it usually is, can in nowise take the place of a text-book chapter upon the same subject.

No claim to completeness is therefore made in such a work, we are sure, though there are no prefatory remarks to indicate the scope and aim of the one which now interests us. The forty-two plates which have appeared are contained in seven large fasciculi, but as they include numbers ranging as high as eighty-six, the intention may be to continue the series. The size of the plates is 17 × 22, while in the International and Morrow's Atlas they are 12 × 17. Differing from the latter, the venereal diseases are not included.

Fasc. I. begins with Plate II. of Erythema Multiforme, showing in three figures the tubercular and circinate forms. The next is Plate XLII., Fig. 1 being an excellent representation of dermatitis gangrænosa infantum with varicella, and Fig. 2 showing miliaria infantum. The next plate is one of Ichthyosis of the Trunk. That devoted to Xanthoma has four figures giving the plane variety, involving the lids, the linear form on the palms, the tuberous variety on the knee, and the congenital disease as affecting the abdomen. Lupus Vulgaris with Epithelioma, in the next plate, shows a case of rather severe nature involving nearly the whole face. In the last of this series scabies is shown in an infant, and upon the hand of an adult.

Fasc. II. contains also six plates, the first illustrating the early and late stages of Urticaria Papulosa, or what has also been called lichen urticatus. The lesions of the early stage, which are difficult to portray, have been well brought out by the artist.

Under Lupus Vulgaris, in the following plate, we find the variety with multiple foci fairly well represented, the early stage of nodular lupus vulgaris of the thigh which has to be accepted on trust, and papillomatous lupus of the buttock, in which the lesion is well painted, but modesty or other consideration has prevented the artist from drawing a buttock which would be recognized unless labelled. Scrofuloderma claims a

very beautiful plate, with excellent figures of lupus verrucosus and verruca necrogenica. Scarkeloid makes a very striking picture occupying the whole plate. Seborrhœic dermatitis is the title of Plate LXXX., showing a condition of the scalp and adjacent skin of forehead and neck which is named suborrhœa eczemaformis, and a second figure beautifully illustrating that distressing cleft or fissured eczema of the palm.

A second plate on the same subject, and an exceedingly well-executed one, shows a variety called "seborrhœa papulosa seu lichenoides."

Fasc. III. opens with a very pleasing plate of four figures on Lichen Planus, including the disease as it affects the tongue. The "Bullous Iodide Eruption" of the face in the next full-sized plate shows lesions more resembling the solid tuberous growths which might follow the bullæ than the bullæ themselves.

Arsenical Pigmentation and Ulceration of the Abdomen and Keralosis of the Hand and Foot are well shown. In the plate on Verruca, the common wart and the flat wart are, according to the text, both meant to be represented, but one gets a strong conviction that the boy really suffers from molluscum contagiosum.

In the accompanying figure of Verruca Senilis the illusion would have been heightened had the skin on which the warts are painted been made senile as well. Lupus Erythematosus Sebaceus and Acne Varioliformis are each given a plate.

Fasc. IV. contains an excellent picture of Pemphigus with Bullæ, in which one can almost see the serum. The two varieties of Leprosy are also well depicted.

Fasc. V. has for its first plate Pemphigus Foliaceus, which is strikingly realistic even to the changes in the finger-nails.

Pityriasis Rosea is a disease very difficult to reproduce with the brush, but the attempt in this case deserves praise. Ichthyosis Hystrix Unilateralis is a rare condition, and in the very beautiful painting showing such an instance (which, however, isn't strictly unilateral) the artist has succeeded admirably. Circumscribed Scleroderma is well shown in two figures. The next plate shows in a striking way an extensive papillary pigmented Mole of the Arm, and a convoluted unpigmented Mole in a Child's face. Tinea Tonsurans is fairly well shown in three figures.

The best plate of the next fasciculus is entitled Hydroa Herpetiforme, commonly called on this side Dermatitis Herpetiformis, or Duhring's Disease. At last we come to Eczema—of which multiform disease two examples are given—and we pause to wonder whether the atlas would not be more useful to the general practitioner, if devoted entirely to the many varieties of this one disease. But then it probably was not produced for the general practitioner alone, and at any rate he would probably rather see Xeroderma Pigmentosum in a book than never see it at all.

Fasc. VII.—Prurigo of medium severity, beginning in a boy of seven, is shown in Plate VII. Impetigo Contagiosa and Ecthyma make good pictures, and give an excellent idea of the lesions as met with in cases of moderate degree.

The terrible but fortunately rare form of Pemphigus designated as Vegetans, is illustrated in a well-made painting from a fatal case of which a long description is given in the text.

Psoriasis Gyrata makes a pretty picture, but the actual lesions do not differ enough from some in the Psoriasis of Plate XXIII., considering the many clinical forms which the disease may assume. Elephantiasis Tropica is illustrated by an amputated leg, which gives too hopeless an impression of therapeutic measures in this formidable affection. We like better Dr. Aranjo's "before and after treatment" pictures of Elephantiasis. They are more cheerful.

Pigment anomalies complete the numbers to date. Chloasma Uterinum is well presented with lesions upon the forehead and regions of eyes and mouth.

As a whole the plates are meritorious, the drawing and coloring being, with few exceptions, executed with much skill. The lithographic and press work is truly praiseworthy, the text being printed upon sheets almost as heavy as are the plates.

The work bears the imprint of much care upon the author's part; the cases are personal and, so far as one may judge, the atlas contains no reproductions from previous publications. It sells at $6 a number.

First Aid to the Injured and Management of the Sick. An Ambulance Hand-book and Elementary Manual of Nursing for Volunteer Bearers and Others. By John Lawless, M.D., D.P.H., Surgeon-Captain, 4th V. B., East Surrey Regiment. Illustrated with forty-nine engravings. Philadelphia: J. B. Lippincott Co. 1894.

Part I. is divided into twelve outline lessons in first aid to the injured. Part II. is devoted to nursing, field hospital organization, the elementary principles of health, of diet for the sick, etc. An appendix gives a table of poisons, bearer's form of report for the medical officer, and a chapter on miscellaneous matters, as ventilation, disinfectants, medicines, and apparatus. The book compares favorably with earlier manuals and with those written by careful Americans.

Prescribing and Treatment in the Diseases of Infants and Children. By Philip E. Muskett, late Surgeon to the Sydney Hospital, etc. Third Edition, revised, enlarged, and rearranged. Edinburgh and London: Young J. Pentland. 1894.

The proportions of this little book are delightful: six inches long, three and a half wide, and about an inch thick. It slips easily into a physician's bag or pocket, and contains about 334 pages of concise and well-arranged matter that is valuable and practical. Its excellence is surprising throughout, even to the admirable index that adds materially to its usefulness. Drugs and applied therapeutics have received the most careful attention, and nothing seems to have been forgotten. The specialist will find the book helpful and suggestive, and so also will the general practitioner. It commends itself to the medical public.

Prostitutes and Pus-tubes.—It is very widely maintained among gynecologists that tubal abscesses are in a large measure traceable to the existence of previous gonorrhœa on the part of the husband. It is not uncommon for surgeons to contend that this condition is to be traced back to gonorrhœas that have passed away years before marriage. They insist that the gonococcus has been hiding away all that time in some quiet receptacle, only to come out and in the light of the honeymoon invade the uterus and tubes of the unsuspecting bride. If this contention be true, prostitutes who ply their trade more than two or three years ought not to possess healthy ovaries, for it is the rarest thing for them to escape having in that time two or more attacks of gonorrhœa. Yet, as far as impressions from our reading and personal observations go, they are strong that the number of operations on account of salpingitis among prostitutes is disproportionately small; and this, notwithstanding the fact that the temptation is great for those who would gain experience to operate on this class of patients. It would be interesting to know what proportion of cases of pus-tubes are found respectively in chaste women and in prostitutes.

It Has Been Proposed in England to make butchers and fishmongers pass an examination in the use of the microscope before being granted a license.

Vienna has had no cases of small-pox among its residents for nearly a year.

Society Reports.

NEW YORK ACADEDY OF MEDICINE.

Stated Meeting, March 21, 1895.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Would Separate Dependents and Delinquents in the City Hospitals.—DR. SEABROOK stated that at a special meeting of physicians held at the Academy on the 18th instant, it was voted as the sense of the meeting that many of the acknowledged evils connected with the City Departments of Charities and Correction would be done away with by completely separating the dependents from the delinquents.

On motion of DR. A. JACOBI the President appointed the following committee to consider the question involved in the communication: Drs. Jacobi, Janeway, Lusk, Morrow, and A. A. Smith.

Thanks Extended the Committee on Nurses' Bureau.—DR. R. H. SAYRE offered the following resolution, which was seconded by DR. JACOBI:

"*Resolved*, That the sincere thanks of the fellows of the Academy be and are hereby extended to the members of the committee on the organization and establishment of the Bureau for Nurses on account of the assiduity and good judgment displayed by them in their labors." Adopted unanimously.

The Coming Memorial Services on the Late Dr. Loomis.—DR. POLK reported for the special committee that Chancellor McCracken, of the University, and Dr. L. A. Stimson would speak at the memorial services on the late Dr. A. L. Loomis, to take place, as the President announced afterward, at the meeting on the first Thursday in June.

Diseases of the Eye Dependent on the Grip.—DR. THOMAS R. POOLEY read a paper on this subject. Grip, he said, might be defined briefly as a specific, epidemic, self-limited febrile disease, probably dependent upon a bacillus or microbe. In fact we might divide all acute epidemic contagious diseases into those in which the bacillus responsible for their existence had been found, and those in which it had not yet been found. Up to the present the bacillus of grip had not been definitely settled. Early in January of this year the disease had been very prevalent in New York, and there were still a few cases. In London and Berlin it was at present wide-spread and the mortality was great.

Dr. Pooley had participated in a grip symposium before one of our local medical societies in 1891, but in the five minutes allotted to him he had found it impossible to even enumerate the diseases of the eye which had been ascribed to it. In the present paper he would enumerate the affections of the eye which had been ascribed to the grip, and consider the grounds for the etiological classification. In doing this Dr. Pooley quoted cases from various authorities on eye diseases. While he seemed disposed to accept with some caution the assumption in some instances that grip was the origin of the difficulty, yet there were few diseases of the eye which had not now and then been traced back to this as apparently the only cause. It was especially necessary, however, to exclude other causes, such as tobacco, alcohol, syphilis, etc. The following conclusions were reached:

1. That eye complications following grip are comparatively rare, a fact which becomes apparent when we remember the immense number of cases of grip which have occurred during the past five years and the exceedingly small number of eye troubles reported as dependent thereon. 2. Many cases reported as due to grip are fanciful and need more substantial proof. 3. Grip may affect the eye directly, through inflammatory process, or through the accessory sinuses, or through the nerves. Inflammatory affections may involve the conjunctiva, the uveal tract, the tissues of the orbit, perhaps the fibrous capsule of tenon. 4. In some of these cases the extension is by continuity, and in others by metastatic or embolic process. 5. The nervous apparatus of the eye is especially liable to become involved, manifesting itself in paresis or paralysis of the intrinsic or extrinsic muscles, by papillitis, retrobulbar neuritis, and anæsthesia of the cornea. 6. Before assigning grip as the cause of any of the eye complications enumerated, careful scrutiny is necessary to exclude other causes, especially any affections of the nervous system, such as syphilis, tobacco, alcohol, and strain.

Diseases of the Ear Dependent on the Grip.—DR. EDWARD B. DENCH read the paper. In considering the subject of diseases of the ear dependent upon grip we had first to remember that epidemic influenza, like other acute infectious diseases, had constitutional symptoms which in their influence upon special organs acted as in other acute infectious troubles. Where the ear was involved it became a question whether it was through the action of the specific germ or toxines of the blood, or by these rendering the ear more vulnerable to other germs which might be present. The author had found it desirable for convenience to separate the cases in which grip affected the ear into those involving the external ear, the middle ear and tube, and the labyrinth and nerve.

Affections of the external canal could be explained by the presence of congestion, rendering the tissues susceptible to any germs present. The complications of greatest importance, however, involved the middle ear and Eustachian tube, just as was true in many other inflammatory conditions of the upper air-passages. There might be simple closure of the Eustachian tube on the one hand, or the other extreme of suppurative otitis media with mastoid involvement. The author laid stress on the importance of anticipating perforation of the drum membrane by incision, and thus obviate extension of the infusion, a change of its character to a more purulent form, and a ragged opening. Wherever incision had been performed the discharge seldom lasted more than a few days, while after spontaneous rupture it had been more profuse and long-continued. The ear should be kept clean by irrigation twice a day. Where the mastoid was involved by extension, the early application of cold might abort the inflammation. Politzer claimed that the superficial cells were more frequently involved, and deemed it unnecessary to enter the antrum, limiting his operation to the superficial cells, but Dr. Dench had not had such experience, and had found it necessary to do as radical an operation as in other cases of mastoid empyema. It was useless, he thought, to continue cold applications longer than forty-eight hours with a view to abort suppuration.

DR. C. S. BULL had found diseases of the eye dependent upon grip to be rare, yet a brief paper which he read contained histories of a number of cases from his own practice and that of others. A striking one of his own was a case of suppurative choroiditis, which was interesting because of its severity and fatal termination. The eye had been blind many years. The patient had grip in January. The eye began to swell and protrude, and by the fifth day was outside the socket. Treatment was continued three weeks before panophthalmitis and cellulitis subsided. After pus had discharged and the cellulitis had subsided, he removed the eyeball. There was a healthy appearance at the base, yet the patient soon developed symptoms of meningitis, and died of that affection, purulent form, as shown by autopsy. It was supposed that meningeal infection had occurred prior to enucleation of the eye.

In cases involving the nervous power of the eye the cause seemed to be a toxic agent, as they resembled cases of diphtheritic paralysis. There seemed to be two classes: the first in which the eye disease came on

during the attack of grip, the second afterward, perhaps several weeks afterward. The latter left more disastrous results as to vision, for there was not only inflammation of the sheath of the nerve, but also an acute degeneration of the nerve-fibres. He had had under his care since December 1st three cases of retro-bulbar neuritis and one of papillitis, with very numerous and large retinal hemorrhages. The latter patient regained his sight completely. The three patients with retro-bulbar neuritis had regained their vision for form, but the color scotoma had remained permanent.

Dr. J. H. Claiborne had seen but one case of eye disease which he could attribute to the influenza, a case of catarrhal conjunctivitis. The paper by Dr. Pooley had freed him of some scepticism as to the etiological relation of grip to diseases of the eye.

Dr. J. H. Weeks quoted from his paper on the subject under discussion, read in May, 1891, in which he had related a case of retro-bulbar neuritis in his own practice, and had collated fifteen more, and could now add four more cases where other causes than grip could be excluded. A synopsis of the four cases was given. Eye complications of grip were not frequent.

Dr. H. S. Oppenheimer made some remarks upon one point, namely, that lesions of the eye from grip might be of one eye or of both. He thought the severest cases of suppuration into the orbit and capsule had been bilateral, yet it appeared that a preponderatingly large number of all cases were in one eye only. He had furnished Dr. Pooley three cases to embody in his paper.

Dr. W. B. Marple said he had seen only one case in which he had not been able to find any other plausible cause for the condition of the eye than grip, a case of paralysis of accommodation, which had not yet been recovered from.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, March 18, 1895.

Samuel B. W. McLeod, M.D., President, in the Chair.

Syphilis of the Eye and its Appendages.—Dr. H. S. Oppenheimer read the paper. He said there was so great an amount of material relating to syphilis of the eye that he had found difficulty in selecting from it discriminatingly and in restraining himself from using too much. He had tried, however, to give a general glance at the subject, passing over most lightly the part which related to the pathology, as it was that of syphilis elsewhere in the system. Syphilis had been found to affect almost every portion of the eye. As six different cranial nerves supplied the eye or its appendages with nerve stimulus, it was very evident that syphilis of various portions of the brain might show itself here.

To begin with the lids, the primary sore was sometimes seen here, nor was this to be wondered at in view of the habit of rubbing the eyes with the fingers. The right eye was most frequently affected. The author had reported one case in which the source was said to have been a kiss. There was great swelling, coming on rapidly, and the chancre was slow to heal. In most of the reported cases the diagnosis had been made tentatively until the secondary manifestations had confirmed it. Gummatous infiltration of the skin and tarsus were also found, and resembled greatly primary chancre. There also appeared on the lids ulcerating papules or tubercles which in elderly persons were easily mistaken for ophthalmia, but they yielded readily to antisyphilitic treatment. When there was a history of syphilis it was easy enough to make the diagnosis, but without it we might have to resort to the microscope. The periosteum and tear-ducts were especially liable to be affected, and when the cause of obstruction to the flow of the tears was dead bone the prognosis was not so favorable. The lachrymal gland was rarely affected. There were sometimes papules on the conjunctiva, usually on the lid surface, but they had also been observed on the globe. The mucous patch sometimes appeared there. It ulcerated readily in this situation, and might be mistaken for primary chancre. Gumma sometimes appeared on the conjunctiva. Syphilis of the cornea unaccompanied by some complication was rare. Gumma of the cornea had been described. Keratitis dependent on congenital syphilis was not at all rare. It might cause a grayish haze or film in the cornea, in the midst of which were at times spots of denser gray or dirty white. It might spread over the entire cornea. The sclerotic border might be much or little injected; there might be vascular keratitis. Parenchymatous keratitis of congenital origin was frequently accompanied by Hutchinsonian teeth, but there were many exceptions. The most frequent age of the appearance of the keratitis was puberty, and it was often the first symptom of congenital syphilis. Often there were associated conditions, such as sunken nose, difficult hearing, cicatrices around the lips, joint troubles which were apt to be mistaken for rheumatism. Dr. Oppenheimer thought the changes in the cartilages and elsewhere were probably similar to those in the cornea. Two cases were cited in which antisyphilitic treatment directed against the parenchymatous keratitis caused the knee trouble to disappear as well.

The uveal tract, by which he meant the iris, ciliary body, and choroid, was most often affected in syphilis. One author had stated that forty-one per cent. of all the cases of iritis were syphilitic, and others had placed the percentage at from one-fourth to three-fourths. There was no distinguishing characteristic of syphilitic iritis unless there was a gummatous nodule; the diagnosis was based on corroborative evidence. It was not safe to trust to a negative history. The pupil should be dilated as soon as possible after iritis had been recognized. There were all grades of plastic iritis. In the more severe cases the pupils would become choked with the exudation in spite of all one's efforts, and end with closure of the pupillary space by dense matted tissue. In some cases there was finally glaucoma, or the disease travelled backward and involved the nerve.

Gummatous tumors could hardly be mistaken for other lesions. They were usually situated at the pupillary edge, but might be at the periphery, involve the choroid, etc.

Ophthalmoscopic examination often furnished valuable aid in the diagnosis of brain lesions. Aside from optic neuritis, there might be an affection of the other nerves supplying the eye, manifested by paresis, etc. While there was no single muscle, or combination of muscles, but what were affected occasionally, yet the paralysis usually involved the oculo-motorius (three-fourths of the cases), the abducens next, the trochlearis next. The intrinsic muscles of the eye were also not infrequently affected. Hemianopsia, aphasia, and Jacksonian epilepsy were often accompanying symptoms.

The author showed two pictures of syphilitic hemorrhage into the retina in young subjects. While the gummatous products might disappear entirely under treatment, arterial changes did so only partially, and the disturbance of nutrition caused by them might produce, years afterward, certain trophic changes, especially in the nervous system. Tabes, for instance; while it might not be exactly syphilitic, yet it was found almost exclusively in those who had been syphilitic. One of the plates showed thickening of the coats of the vessel at the fundus of the eye, which was likely to go on to closure of the lumen and, eventually, contraction of the vessel.

Dr. J. W. S. Gouley remarked concerning congenital syphilitic keratitis that he thought it implied syphi-

lis in the mother; it was not sufficient for the father alone to have had syphilis. It was rare that the cases were seen in their inception. He thought there was a tendency to meddlesome treatment in syphilitic iritis, while the very important indication to produce dilatation of the pupil was apt to be neglected and prove fatal to the iris. He believed in vigorous constitutional treatment.

Dr. J. R. Macgregor thought the comparative frequency of chancre of the eye in children could be accounted for by the delicate structure of their mucous membrane and skin, and by their rubbing the eyes with the fingers, which were not, as a rule, very clean. The irregularity of the surface of the cornea, and the streaky, spotted condition which was left where the deposit was not entirely absorbed, became very important diagnostic marks of previous keratitis originating in congenital syphilis. Dr. Macgregor thought the modern treatment of syphilis by very large doses of iodide of potassium started from Dr. William Kelly, who instituted it at Blackwell's Island about forty years ago.

Dr. Leonard Landes presented a man who had passed through a protracted and dangerous illness attributed to abscess of the liver which had existed a year.

Papers were read by Drs. J. W. Gleitsmann and Carl von Ruck on the "Modern Treatment of Laryngeal and Pulmonary Tuberculosis." (See p. 424.)

Dr. F. J. Quinlan said that one of the most prominent symptoms in laryngeal phthisis was pain, and nothing gave more relief from this than cocaine. A fifteen or twenty per cent. solution touched over the parts would enable the patient to take nourishment. Lactic acid could be regarded as almost a specific in ulcerations of the larnyx. Creosote might be used internally or locally after the method of Chappell, but European observers had spoken of a depressing effect resulting from deluging the patient with creosote, which was regarded as worse than the disease itself. While the surgical procedures might seem heroic, he had no doubt that in judicious hands they would be of great value.

Speaking of prophylaxis, Dr. Quinlan emphasized the need of attention to the nose. This was regarded to-day as an essential to healthy lung action; the contraction and dilatation of the vessels in the nasal passages was similar to that going on in the air-cells of the lungs. All irregularities of the nose should be corrected, as the primary step toward healthy lungs was proper inspiration. To breathe through the mouth, or to have air enter the lungs over diseased nasal passages would expose to infection any broken surface below.

Dr. Chappell, to whose paper reference had been made by Dr. Gleitsmann, described his method of injecting creosote beneath the mucous membrane in laryngeal tubercular infiltration. As a spray he used a mixture composed of one drachm of creosote to one ounce of castor-oil, and for injection into the mucous membrane one composed of two drachms of creosote to one ounce of castor-oil. The injection relieved pain and cough, and promoted resolution without destroying the superficial epithelium of the larynx, which was important in order to obviate further infection.

French Population Statistics.—During the year 1893 were registered 287,294 marriages, 6,184 divorces, 874,672 births, and 867,526 deaths. The increase of births over deaths was 7,146 (the population of England, with nine millions less, increased during the same period by over 500,000). The percentage of marriages was 0.7, of births, 2.29, and of deaths, 2.28. The total number of illegitimate children was 76,562, which is the highest figure yet reached, and represents 8.8 per cent. of the natality.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DEATHS OF SIR W. SAVORY, BART., F.R.S., DR. HACK TUKE, MR. CHANCE, F.R.C.S., MR. HIGGINBOTTOM, AND DR. C. E. ARMAND SEMPLE—THE EPIDEMIC OF INFLUENZA—INCREASED MORTALITY—MEDICAL SOCIETIES—HYSTERICAL DEAFNESS—FLOATING KIDNEY—OBSTETRICAL SOCIETY'S ANNUAL MEETING—EFFECT OF HIGH-TENSION CURRENTS—CLINICAL SOCIETY—CEREBRAL TUMORS—DIABETES AND PSORIASIS—RUPTURE OF GALL-BLADDER—CYSTIC SARCOMA—ARREST OF DEVELOPMENT.

London, March 9, 1895.

Disease and death constantly occupy the attention of the profession. This week they come home to us with unusual force, for death has laid his hand heavily on London doctors, and influenza has maintained its hold on the community. To begin with the notable deaths among us. No sooner is Mr. Hulke, the president of the College of Surgeons, laid in his grave, than Sir William Savory, a distinguished predecessor in that office, is seized with his fatal illness. Sir William Scovell Savory, F.R.S., was born November 30, 1826, and died on March 4th. After school-days, he became a student at St. Bartholomew's Hospital, with which he remained connected throughout his life—passing regularly through the stages on the surgical staff, until on resigning he was elected consulting surgeon (1891). In 1848 he graduated at the London University and obtained the great distinction of "University Medical Scholar." In 1852, he took the fellowship of the College of Surgeons. In 1870, he became an examiner; in 1877, a councillor; in 1885, president, and was re-elected in 1886, 1887, and 1888—a record at the college.

It was during his presidency that great meetings of members and fellows were held to claim the right to some influence in its government. Savory was opposed to the claims, and no doubt his re-election was due to the knowledge of the council that he was the strongest man of their party to put forward, and he certainly led the forces of resistance with consummate skill. At the same time his courtesy and forbearance in the chair as the representative of the few in face of numerous hostile audiences, elicited the acknowledgment that he was fair and considerate.

As a surgeon, his position at St. Bartholomew's may speak. He held that position with honor for the full period. At the clinical consultations no opinion was more influential, and in private practice no surgeon's help was more valued by practitioners.

But perhaps it was as a teacher that his influence was greatest. He was one of the most eloquent of our leaders, and his lecture-room was crowded with earnest pupils, among whom were often listeners who were already in practice.

As an examiner he was rather dreaded, and at one time had an unenviable reputation for severity. This was perhaps due to impatience of ignorance in candidates of elementary facts, or of matters which endangered life. But to the nervous man he was considerate, and would take trouble to reassure him and to find out if he knew the subject. His baronetcy, conferred in 1890, descends to his only son, a clergyman.

Dr. Hack Tuke died on Tuesday (5th). His name will be well known to your readers as an authority on insanity, a subject which was his by inheritance, for from the time of his great-grandfather the Tukes have followed this branch of medicine. He was born in 1827, and in 1858 was joint author with Dr. Backnill of the "Manual of Psychological Medicine," which has maintained so high a place. He was for nearly twenty years editor of the *Journal of Mental Science*,

and his important "Psychological Medicine" came out in 1892. He was president of the Medico-Psychological Association, which owes much of its success to his influence. He filled a great position in the profession with honor to himself.

Mr. E. J. Chance, consulting surgeon to the Metropolitan Hospital, died last week at the ripe age of eighty-eight years. He became a member of the College of Surgeons in 1835, and a fellow in 1843. It seems like turning to long-past institutions to say he was a lecturer in the Aldersgate and Hunterian schools of medicine. He was for many years surgeon to the City Orthopædic Hospital, and had previously held the assistant surgeoncy at both the other orthopædic hospitals—the National and the Royal.

Marshall Hall Higginbottom, of Nottingham, died on the 24th ult. He was the son of John Higginbottom, F.R.S., who also practised at Nottingham, and will be remembered as the originator of the treatment of erysipelas by surrounding it with silver nitrate. He was also a great teetotaller at the time when temperance views were in such a minority that he seemed almost to stand alone against the rest of the profession. Could he have seen what his son lived to see! This son was named after Dr. Marshall Hall, who was his uncle. He qualified in 1844, and joined his father in practice at Nottingham.

Dr. C. E. Armand Semple died on Tuesday last, aged fifty. He was secretary to the Board of Examiners of the Apothecaries' Society, and had previously been a medical tutor and compiler of several student's "aids." He was also physician to a Children's Hospital and to the Royal Society of Musicians.

Enough of deaths for one week. As to disease, influenza still reigns. Last week its mortality rose to 296 from 111 the week before. In the 1893 epidemic the highest weekly number was 164, so we are already far ahead of that. The only set-off is that diphtheria still declines and small-pox is diminishing, not only in London, but in most provincial towns.

LONDON, March 16, 1895.

INFLUENZA is still uppermost in our talk. An official memorandum has been issued by the Local Government Board, in consequence apparently of the question asked in Parliament. It may serve to urge people to go to bed and nurse themselves early in the attack. Of the six outbreaks since 1889–1890, this seems the most sudden and is certainly the most fatal. The mortality has again risen. From the returns to March 2d, which I have reported as two hundred and ninety-six deaths in the week, the number rose last week to four hundred and seventy-three, and the deaths from all diseases of the respiratory system also rose. The epidemic probably has passed its highest, for it must be remembered that the registration returns are necessarily somewhat behind in point of time. As I anticipated, the provinces have been invaded in all directions, and the mortality has been great, so that even a healthy town like Brighton showed the high rate last week of 40.1 per 1,000 of population. In all sorts of assemblies vacant places may be noted, not only of those who have died, but of a much larger number who are attacked and are either in bed or confined to the house. An example of this was seen at the Medical Society's dinner on the 8th, when several expected fellows were absent, but a similar circumstance may be constantly met with even at private dinner-parties. If, as I surmise, the worst has passed, we shall soon return to our ordinary state, but many will be a long time before they feel strong again.

At the Medical Society on Monday last, Dr. Hector Mackenzie related a case of hysterical deafness in a girl aged sixteen, who two years before had had sore throat (diphtheria?) and then influenza; earache followed, for which she was politzerized, with the result of causing sharp pain and almost total deafness. Soon after anæsthesia and loss of muscular force came on, which ultimately became general; the ability to use her limbs was only regained by a tedious course of training, and even when she had recovered power over her legs, deafness remained; but this was restored by the re-education of the auditory centre.

Mr. Bruce Clarke gave an epitome of the results obtained by him in thirty operations undertaken for the relief of movable kidney. In several of the cases the condition of the kidney was such that it was thought best to remove it, and in several there was calculous deposit. Mr. Clarke regards this as secondary to the undue mobility of the kidney, which leads to retention of urine, dilatation of the organ, and liability to calculous deposit. Undue mobility of the kidney, he thinks, is a more important factor in the production of renal disease than is usually suspected, but data are still wanting on which to found any rule of practice. If floating kidney could be shown to lead, even in a moderate proportion of cases, to hydronephrosis, etc., additional weight would be given to the view of operating in all cases without waiting for the condition of the kidney to become such as to necessitate surgical intervention. In the discussion the necessity for operation in a large proportion of these cases was questioned, and the general opinion seemed to be that operation should be postponed until an attempt had been made to afford relief by the use of a belt or other appliance having for its object the partial immobilization of the wandering organ.

The Obstretical Society held its annual meeting on Wednesday (6th), when Dr. Champneys, the incoming President, delivered his inaugural address, which he devoted to the defence of the Society in issuing to midwives the certificates which have been condemned by the General Medical Council, and spoke of the nameless horrors that would be perpetrated if midwives were not examined. A copy of the address is to be sent to members of the General Medical Council, members of Parliament, and others, who may be interested in knowing the attitude of the Society in regard to the recent action of the General Medical Council in the matter of certificates to midwives.

Dr. J. Inglis Parsons read a paper on the "Disintegration of Organic Tissue by High-tension Currents," on which a discussion followed as to whether these effects were not due to heat, considerable differences of opinion being expressed.

At the Clinical Society, on Friday (8th), Dr. Handford read notes of a case of cerebral tumor in a man, aged forty-three, who had been injured by falling out of a cart upon his head. A fortnight afterward he became mentally depressed, and experienced gradually increasing failure of power, and later serious symptoms supervened resembling a previous case recorded in *Brain*, 1891. A diagnosis was made of tumor, probably sarcoma, arising in the injured tissues and situated on the right side close to the motor tract. The patient was trephined, but the tumor was not found, and at the necropsy shortly afterward a tumor was discovered, four inches by seven and a half inches in size, firm in consistence and dark in color, situate behind and to the outer side of the right corpus striatum. Microscopically it was a vascular sarcoma, containing some spindle cells and in places a coarse meshwork filled with uninjured blood-corpuscles. Dr. Handford expressed the opinion that the causal relation between the injury and the new growth was undoubted in each case, and that the frequency of such occurrences was somewhat underestimated. Several speakers mentioned similar cases in which the symptoms had more or less continuously progressed from the time of injury.

Dr. Grube, of Neuenahr, reported four cases illustrating the association of diabetes with psoriasis. He thinks this association is not a mere coincidence.

Mr. Arbuthnot Lane read the notes of a case of rupt-

ure of a gall-bladder and liver produced by violent straining in a woman, aged fifty-four, suffering from obstructive jaundice of about three or four months' duration. The greatly distended gall-bladder was exposed, the tumor at once projecting through the incision. It was incised and more than three-fourths of a pint of blood-clot was removed. As it was then found that the common bile and common hepatic ducts were enormously distended by the same material, nothing further was done. Dr. Shaw examined the parts, and found that the hepatic aspect of the gall-bladder, together with the adjacent portion of the liver, were rent, and that all the ducts in the liver also were filled with clot. In support of his explanation that the rupture had resulted during violent straining, Mr. Lane quoted from a paper by Dr. Willard, in the "Transactions of the American Surgical Association, 1893," a case in which death appeared to have resulted from rupture of a distended gall-bladder and from hemorrhage into the peritoneal cavity.

Mr. Spencer showed a specimen of traumatic cystic lympho-sarcoma of five years' growth. The right upper extremity was removed, and owing to the skin being widely involved the whole of the wound had to be covered in by a flap from the upper half of the arm. The gentleman is about to return to New Zealand, the prognosis seeming to be favorable.

Dr. Wallis Ord related a case of unilateral arrest of development with arcus senilis and without hemiplegia in a girl, aged twelve, but suggested that it was a very mild form of infantile spastic hemiplegia, though no spasm was present.

THE STATE AND THE DRUG-STORE.

To the Editor of the Medical Record.

Sir: It appears to me that, in your editorial comments on "The State and the Drug-store," you have misapprehended the nature and the objects of the work which the board is doing in the matter of drug adulteration, and I therefore beg that you will allow me to make a brief statement concerning this work. During the last year, in addition to a large amount of other chemical work, 2,289 samples of drugs, collected from many hundreds of stores in sixty-three localities, were examined. Of this number 69.5 per cent. were of good or fair quality, while 30.5 per cent. were of inferior quality or materially varied from the pharmacopœial, which is the legal, standard. Of these latter samples very few were adulterated in the sense in which that word is ordinarily and popularly employed, that is, by the intentional addition of foreign matter with intent to cheapen the article, but under the law[1] a drug is adulterated "if when sold under or by a name recognized in the United States Pharmacopœia, it differs from the standard of strength, quality, or purity laid down therein." Therefore if a medicinal preparation is impure as a result of careless or improper manufacture, or has deteriorated from too long keeping or exposure, it is adulterated within the meaning of the act, and the retailer is responsible for its quality even if not prepared by him. Again, the pharmacist is often, in a sense, forced to dispense articles which are of inferior quality in response to the demands of the physician. For instance, many physicians insist that reduced iron shall be black, and if tablets are gray they return them, notwithstanding the fact that none of the "black irons" of the trade answer to the pharmacopœial requirement, and reduced iron which contains eighty per cent. of metallic iron is necessarily gray in color. Druggists as a class are, in my opinion, not less intelligent and honest than men engaged in other pursuits, and it is my belief that, for the most part, they desire to conduct an honorable business in an upright manner, but they often make mistakes, and they frequently dispense goods as they buy them without particular inquiry as to quality or the application of tests for strength and purity. A large proportion of the medicinal agents in which they deal are seldom or never adulterated or of inferior quality, and such articles we do not collect, as their examination would involve needless work with no good result, but we select such articles as are known to be often of inferior or inexact strength, or otherwise of inferior quality, or liable to deterioration through improper preparation or careless keeping, and for this reason, as stated in each of our reports, the percentages of good, fair, and inferior articles reported by no means represent the proportions of good, bad, and indifferent drugs on the market.

[1] Chapter 661, Laws of 1893, Article III.

The object of the work, as conducted, is not to determine the ratio of adulteration, as such an inquiry would have but little practical value, but to expose sophistication, substitution, adulteration, and carelessness in the preparation and sale of drugs and pharmacopœial preparations; to inform the public, and warn ignorant and careless dealers. In this direction we are working in common with the colleges and boards of pharmacy and the pharmaceutical associations and journals, but much more directly and effectively, since our printed reports disclose the name and place of business of all dealers from whom samples have been obtained, and the quality of the articles sold by them. Notices are promptly sent from the office of the board to all dealers whose samples have been found to be of inferior quality, enclosing a copy of the analyst's report, and warning them to desist from the sale of such articles, and in most instances these notifications are not only gratefully received, but as promptly complied with. For many reasons it is impossible in every instance to visit such dealers again within a definite period, but such second collections and examinations are made from time to time so far as it is practicable to do so.

Now, concerning the further treatment of dealers whose drugs have been found below standard quality, while the responsibility does not rest with me, I am decidedly of the opinion that a resort to extreme measures is seldom necessary or advisable. The warnings of the board are very generally respected, and I believe that the work which it has done has exercised a most important influence in improving the quality of the drugs sold in this State. That cases deserving of prosecution might be selected I am willing to admit, but in the great majority of instances gentler measures suffice, and, in my opinion, it would be unwise, inexpedient, and impolitic to resort to legal measures for the correction of such errors as are comparatively unimportant, and are often unintentionally committed. There is a sense, of course, in which all variations from strict accuracy in dispensing drugs are important, but we must recognize that some things are more important than others. If a druggist puts up strychnia for morphia, or sells laudanum for paregoric, or wilfully debases active and important remedies, such errors are of the first magnitude, but if he sells magnesium carbonate for magnesia, or safflower for saffron, no very great harm has resulted, and when he is informed of his error he will, in most cases, guard against it in the future. If, in such cases as these, legal proceedings were instituted, the expenses attending them would be disproportionate to the good accomplished; the business of reputable dealers might be ruined, and in conducting such a crusade I am convinced that we should not receive the sympathy or the support of the medical profession or the public at large.

In conclusion, it seems to me that the work in which the board is engaged is deserving of the support of such journals as the Medical Record rather than of ridicule based upon an imperfect knowledge of what this work really is. If, in the opinion of some, we have erred on the side of too great leniency it has been be-

cause of a desire to avoid harsh, arbitrary, or sensational methods in dealing with the pharmacists of our State, the great majority of whom are intelligent and honest men, who when they err do so more often through ignorance than deliberate intent. We have no desire to escape impartial criticism or just censure, but we ask that our work may be judged by our reports of it, which are "in evidence," having been before the public for years, rather than from hastily prepared and incomplete newspaper reports of legislative inquiries.

WILLIS G. TUCKER,
Director State Board of Health Laboratory.

ALBANY, March 19, 1895.

FOREIGN BODIES IN THE APPENDIX.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In a recent number of the MEDICAL RECORD a contributor states that the literature of foreign bodies in the appendix may be enriched. In a contemporary appears a note that the grape-seed which has caused appendicitis is yet to be found.

During the summer of 1883 I made an autopsy of the body of a well-developed male, who died, having all the symptoms of acute general peritonitis, after four days' illness. About the appendix was found two ounces of pus, in which was found two apple- or pear-seeds. In a perforation of the wall of the appendix was found a similar seed, one end of which projected into the cavity of the appendix, the other end projected into the peritoneal cavity. In the cavity of the appendix was a piece of hardened fæces one-half inch long and one-fourth inch in diameter. The appendix was four inches long and one inch in largest diameter. In the walls were three openings about one-eighth of an inch in diameter. These openings were as cleanly cut as if made with a hollow punch of the same diameter. Through these openings the seeds found in the pus evidently passed, as in one opening the seed was found lodged. I have this specimen in my possession, although the seeds were recently lost while changing the preserving fluid. This specimen was exhibited to the Cayuga County Medical Society. If the grape-seed has not been found, the apple- or pear-seed has.

Respectfully yours,
JOHN W. KALES, M.D.

FRANKLINVILLE, N. Y., March 19, 1895.

A NEW APPLICATION OF THE KERATOMETER OF JAVAL.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It may interest those of your readers who are using the keratometer to learn that there are other possibilities in its use besides that of measuring the curvature of the cornea.

While examining a patient's cornea and iris one day, with oblique illumination, the thought struck me that I might obtain equally as good, if not a better, view of these parts with a javal. Seating my patient before this instrument and lighting but one of the lamps, the light was made to fall directly upon the cornea. After a little manœuvring with the telescope a fairly good view of the iris was obtained. As soon as the iris came into the field the reflexes of the disk appeared. Further experimenting brought out the fact that to see these surfaces distinctly it was necessary to take the illumination from a little back, and to the same side as the eye to be examined, then focus the light upon the eye with a mirror of eleven-inch focus. I used a gas flame for illumination, and my head-mirror, which I held in my hand. The details of the cornea, if opacities are present are very distinctly seen; the color of the iris, its structure, the crypts, contraction furrows, pigment patches, and pupillary zone are all clearly brought out. Opacities on the anterior surface of the lens may be seen. The image thus obtained is magnified and all the details easily made out, such as tumors or synechia. By mounting the mirror on a stand both hands are free to make a sketch of the actual situation of adhesions.

While we are measuring the curvature of the cornea, it takes but a moment to carry out this examination, should it be thought best to examine the iris. If the patient will look through the opening in the disk, thus relaxing the accommodation, the pupil will dilate and uncover any adhesions of iris, should they be present.

A slight disadvantage in examination by this method is due to double images of the large disk and mires. By revolving the tube, the image caused by the prism, which lies just outside the optic axis of the tube, will be carried around the stationary image, thus all portions of the iris will be seen in turn.

W. F. SOUTHARD, M.D.

603 SUTTER STREET, SAN FRANCISCO, CAL.

WARNING AGAINST CASTRATION FOR PROSTATIC ENLARGEMENT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Permit me to call the attention of your readers to the "Warning against Castration for Prostatic Enlargement," by Dr. Belfield, of Chicago, which I hope will have a wide publicity through your columns.

It seems to me that this warning is timely, and I desire to express my agreement with the position taken by Dr. Belfield. In many of the cases of castration which have been appearing in the medical press, both foreign and domestic, there has been a very striking lack of proper observation of the cases prior to the operation, and an equally imperfect report of the patient's subsequent condition, nor do we know how many deaths have followed the operation. The relief to these patients, which in some of the cases was reported as appearing within a few hours after the operation, has been too positive to be attributed to the operation itself, for it hardly seems rational to believe that a hyperplastic organ, in which, no doubt, there has been an increase of the connective-tissue element, should diminish in size within a few hours after castration has been performed. It is within the experience of many surgeons to have seen an acute cystitis and inflammatory engorgement of the prostate rapidly subside under rest in bed and other equally simple measures. Moreover, as Dr. Belfield says, mistakes in diagnosis are very easily made unless complete exploration of the bladder and prostate is resorted to prior to the operation.

Let me also call attention to the difficulty of determining the size and relative diminution in size of the prostate by the ordinary methods of examination. It seems to me that in order to test the results of such an operation, which is based on theory alone, the size of the prostate should be determined by three examiners and the examinations repeated with sufficient frequency to determine positively the size of the organ.

The operation of castration for hypertrophied prostate does not prove anything unless it has been demonstrated in a given case that other measures which have hitherto given relief were employed and failed. Elderly men with enlarged prostate are always liable to acute exacerbations and inflammatory engorgement, ofttimes to such a degree that retention of urine will result, with over-distention and subsequent atony of the bladder. Many of these cases can be relieved without immediate catheterization by putting them to bed, thus reducing the volume of blood in the pelvis, and by hot irrigations, etc. Then, when instrumentation becomes justifiable, they regain a certain amount of spontaneous urination and have no more residual

urine than have many of the cases which have been reported as "cured" by castration.

A theoretical operation based upon observations upon dogs and eunuchs, in whom physiological atrophy of the prostate is said to be induced by the abrogation of its sexual function, cannot reasonably be applied with the expectation of getting the same results in elderly men in whose prostates hyperplasia has already taken place. If this theory could be proven, about one man in three after the age of fifty ought to submit to castration in order to prevent enlargement of his prostate. Respectfully yours,

L. BOLTON BANGS, M.D.

NEW YORK, March 26, 1895.

INDECENT MEDICAL ADVERTISING.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I received to-day (in common with many other victims, I suppose) a pamphlet containing some twenty reproductions of photographs of syphilitic skin lesions. Many of the pictures were of men stark naked, and showing uncommonly well-developed genitalia. One picture showed the genitalia, and but little of the man.

This pamphlet, issued to advertise some proprietary nostrum, was sent by mail to my house and lay for a while on the table of my waiting-room, in an unsealed envelope, so that any woman or child prompted by curiosity might easily have inspected it—which they would have been all the more prone to do since the wrapper was marked in large letters, "For Medical Men Only."

While photographs of this kind have a legitimate place in systematic works on syphilis, to use them for purposes of commercial exploitation is disgusting; and to thrust them into a man's house in such a way that any member of his family—women and children and the female servants—may easily get hold of them, is a signal invasion of his rights.

I have sent the pamphlet with the wrapper, as I received it, to the Postmaster-General, at Washington, with the request that the Post-office take means for the abatement of this nuisance. For scarcely a week goes by without there arriving by mail, in open envelopes, pamphlets marked in large letters on the covers, "Painful Menstruation," "Sterility," "Impotence," or some such title calculated to arouse curiosity, and it is some trouble to be obliged to tear these into pieces small enough to be useless before throwing them into the waste-basket. But pamphlets of this sort are petty annoyances compared with the ostentatious indecency of the publication received to-day. While we may call on the postal authorities to protect us from having these things thrust into our houses in unsealed envelopes, yet the ultimate cure for this evil, steadily on the increase, must be sought in the attitude of the medical profession itself, which should mete out a stern disapproval to all who, for the sake of selling their wares, offend against decency and good sense.

Yours truly, WALTER MENDELSON, M.D.

159 WEST SEVENTY-FOURTH STREET,
March 28, 1895.

The Physiological Effects of Cycling.—Dr. Blajevitch, of St. Petersburg, has published the results of his observations upon the physiological effects of cycling. These showed that the play of the chest immediately after riding diminishes from 1 to 1.5 ctm., especially in the cases of women and children, and of men racing or beginning to use the cycle. The general effect of a summer's riding on men was practically nil; in women and children the vital capacity was slightly increased. The arm power was found to have increased more than the leg power in young persons and in beginners, but in the case of mature men used to cycling this was not so evident.

New Instruments.

A NEW PORTABLE STERILIZER.

BY X. O. WERDER, M.D.,

PITTSBURGH, PA.

THE sterilizer has become almost inseparable from aseptic surgery, and is rarely absent from the modern operating-room. It has not found the general introduction into private practice which it deserves, and the surgeon frequently dispenses with its use during operations in private houses, often to the detriment of the patient, because those in general use are not well adapted for transportation, and even the few portable ones in the market are either not suitable for all operations or else too large and heavy, containing at the same time so many attachments that comparatively little room is left for the necessary instruments and dressings. No doubt many physicians have felt the want of a sterilizer which is compact and light, with sufficient space for all instruments and dressings, used in ordinary operations, including laparotomies, at a modern

price. The sterilizer herein described is believed to be one which is really "portable." It is 12 inches long, 6 wide, 3¾ high, with legs attached to the bottom of the apparatus, which can be folded up when not in use. It is made of copper with tin lining and nickel-plated inside and outside. Weight four and one-half pounds. The inside space is divided off into two compartments by a perforated tray of the same material, an upper one 2 inches deep and 12 inches long for dressings, etc., and a lower one 1¾ × 12 inches for the soda solution into which the instruments are placed. The cover or lid is 1 inch deep by 12 inches long, and is intended to be used during the operation as a tray for the instruments. It is large enough to hold all the instruments and sutures ordinarily used during an operation. It is heated by an alcohol lamp with four Bunsen burners, requiring about six ounces of alcohol to keep it boiling from twenty-five to thirty minutes. The inside perforated tray has heavy wire feet which can be folded, so that the whole space, 3½ × 12 inches, can be utilized for packing instruments, dressings, etc., quite sufficient for all ordinary operations. There is no necessity for carrying trays along, as the lid makes an excellent tray. The instrument is neat in appearance and can be carried in a canvas cover with straps, the whole apparatus when packed being 12¼ inches long, 6¼ wide, and 3⅜ high. In laparotomies, etc., in order not to fill up the space unnecessarily with thick, heavy towels, the author has been in the habit of using cheese-cloth, of which several yards are boiled with the instruments in the sterilizer; it takes up very little room, and at the same time answers the purposes just as well as towels.

A Line of Medical Ancestors.—William Hunter Baillie, who recently died in England at the age of ninety-eight years, was the only son of Matthew Baillie, M.D., who attended George III. during his frequent illnesses. His mother was one of the twin daughters of Thomas Denman, M.D., John and William Hunter were his great uncles, and Sir Benjamin Brodie was his first cousin once removed.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 30, 1895.

	Cases.	Deaths.
Tuberculosis	116	121
Typhoid fever	6	2
Scarlet fever	110	21
Cerebro-spinal meningitis	3	6
Measles	154	14
Diphtheria	229	40

Speaking to the Eyes.—We hear, as a matter of fact, with that portion of the brain set apart for receiving impressions of sound, and not with the ears. For example, the appreciation one may have for music depends not on a musical ear, as it is called, but on a musical brain. So when the ears of a deaf person fail to pass sound along into the brain he may, notwithstanding, take cognizance of speech by seeing the expressions of one who in speaking makes certain motions with the lips, teeth, tongue, eyes—in fact with the entire face. A glance of the eyes, a smile or a frown, may be aided by a shrug of the shoulders or some motion of the hand. By such means may one convey their thoughts to a person deaf as a post. The *Tribune* of Sunday, March 24th, referring to this subject, tells how Miss L. E. Warren, of this city, has systematized this work, and gives instruction to classes of very deaf persons in expression reading. Miss Warren has a method which makes it quite easy to instruct the deaf to converse with others; it is similar to the well-known Bell method now used in educating deaf children. She finds that persons who have become deaf after receiving their education, however, are much more easily taught to see speech, so to speak, than one of those born deaf, and who have to be educated by this method at the same time. This is an entirely new field of work, and is somewhat like teaching a foreign tongue to persons obliged to live in a country where a strange language is spoken. There is said to be an amusing side to this accomplishment, for an adept in expression-reading when at a distance may understand from the motions of even a mustachoed lip the whispered words of a fond lover intended only for the fair one's ears, or the unspeakable gossip of the sex who chatter away without reserve. It is quite possible that it may soon become the fashionable vogue to acquire the art of conversing thus silently with your friend when in the midst of the noise of social life.

A Medical Circulating Library.—Dr. Marcel Beaudoin, General Secretary of the French Medical Press Association, has started a medical circulating library, organized on the model of the London circulating libraries. A subscription of 15s. a year entitles the subscriber to have forwarded to him all the books he may desire; the price of carriage is deducted from the deposit fee—5 francs (4s. 2d.) for each book asked for. Dr. Beaudoin has also organized the "Service des Fiches Bibliographiques." Instead of grouping facts and subjects in the order of their occurrence, they are grouped in the order of specific sequence. The subscription is 8s. a year, and each "fiche" costs one halfpenny. "A Fiche Analytique" is to be added to this organization, in which foreign works will be analyzed in the French language. After November, 1895, a reading-room will be attached to this circulating library.

Treatment of Lupus by Cantharidinates.—There was a large audience at a recent meeting of the Berlin Medizinische Gesellschaft to hear Professor O. Liebreich's paper on the treatment of lupus by cantharidin, and on tuberculosis. His theory of tuberculosis is briefly as follows: In the case of animals—for instance, of guinea-pigs—the smallest doses of tubercle bacilli suffice to create a general disease, which in every case kills the animal. But the resisting power of human beings is much greater. An inoculation of tubercle bacilli would, in a healthy individual, produce not general tuberculosis but only localized nodules. The disease could only supervene where there was what is called a predisposition—that is, diminished vital energy of the cells of the organism. The healthy human cell resists the action of parasites, and only where it is weakened can it be attacked by nosoparasites. In treating nosoparasitary diseases, it is important to strengthen the vitality of the cells, and Liebreich has found cantharidinate of soda or of potash most valuable for this purpose. A dose of 2 decimilligrammes may be taken for years without affecting the kidneys, and under the influence of the drug the lupus clears away uniformly. A patient of Liebreich's, completely cured of lupus of the face and arms, was shown. The discussion was adjourned till next meeting.—*British Medical Journal.*

Sterilization of Water.—M. Frémont has succeeded in proving experimentally that water maintained for twenty minutes at a temperature of 80° C. loses all the pathogenic micro-organisms it may have contained without being deprived of its gases and without involving any precipitation of the contained salts. It is stated that the flavor of the water is in nowise modified by the process—a most important consideration.

Which is, Ophthalmologically, the Best Artificial Light?—Dr. Trousseau, surgeon to the Quinze-Vingts Eye Hospital, gives the preference for innocuity to incandescent electric light, and assigns the second place to petroleum lamps, which may advantageously be employed for ordinary purposes. He condemns *in toto* the light yielded by oil, and more particularly that given by candles. The gas-jet is the most hurtful to the eye, its only recommendation being its convenience.

BOOKS RECEIVED.

HYGIENE. By Joseph F. Edwards, A.M., M.D. 8vo, 425 pages. Illustrated. Published by Edward P. Slevin, 28 Barclay Street, New York City.

SUGGESTIONS TO HOSPITAL AND ASYLUM VISITORS. By John S. Billings, M.D., and Henry M. Hurd, M D. 12mo, 48 pages. Published by J. B. Lippincott Company, Philadelphia. Price, 50 cents.

DIGESTIVE PROTEOLYSIS. By R. H. Chittenden, Ph.D. 8vo, 137 pages. Publishers, Tuttle, Morehouse & Taylor, New Haven, Conn. Price, $1.25.

HUMAN ANATOMY. Vol. I. By Justin Herold, A.M., M.D., and Sebastian J. Wimmer, M.A., M.D. 12mo, 296 pages. Published by the Medical Publishing Co., 718 Betz Building, Philadelphia, Pa. Price, $1.50.

TWENTY-FOURTH ANNUAL REPORT OF THE MIDDLETOWN STATE HOMŒOPATHIC HOSPITAL AT MIDDLETOWN, N. Y. Transmitted to the Legislature, January, 1895. 8vo, 258 pages. Published by James B. Lyon, State Printer, Albany, N. Y.

THE PRACTICE OF MEDICINE. By Dr. William C. Goodno. With Sections on Diseases of the Nervous System, by Dr. Clarence Bartlett. 8vo, 961 pages. Vol. I. Illustrated. Published by Hahnemann Press, Philadelphia, Pa.

SEVENTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF CONNECTICUT FOR 1893. Printed by order of the Legislature. 8vo, 519 pages. Printed by The Tuttle, Morehouse & Taylor Press, New Haven, Conn.

BURIED ALIVE. An Examination into the Occult Causes of Apparent Death, Trance, and Catalepsy. By Dr. Franz Hartmann. 8vo, 147 pages. Published by Occult Publishing Co., Boston, Mass.

TRAITEMENT DES FRACTURES PAR LE MASSAGE, ET LA MOBILISATION. By Dr. Just Lucas-Championniere. 8vo, 564 pages. Rueff et Cie., Editeurs. Paris. Illustrated.

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Original Articles.

NOTES ON INTRA-VENOUS COAGULATION, WITH SPECIAL REFERENCE TO THROMBO-PHLEBITIS.[1]

BY W. GILMAN THOMPSON, M.D.,

NEW YORK.

I HAPPEN to have seen a much larger number of cases of phlebitis, or thrombo-phlebitis, within the past two or three years than before, and this I was at first inclined to attribute to the prevalence of the grip. However, upon analyzing them I was in doubt as to whether this was not merely a coincidence, for the theory of grip causation does not wholly account for the increase, although in the New York Hospital there were but two cases of primary thrombo-phlebitis treated in the year before the grip arrived, against seven last year.

I have tabulated 73 cases which are recorded as occurring at that institution in the fourteen years from 1880 to 1894. Prior to 1891 the number never rose above 7 cases per year, and that maximum was reached but once, and between 1891 and 1894 it rose from 2 to 24. This latter figure is out of all proportion to the increase in the general hospital service. The period which exhibits this striking increase in the number of cases is coincident with the prevalence of the grip, but I find only four cases in which that disease is mentioned as occurring simultaneously. However, out of 88 cases collected from different sources all of 12 (nearly seven per cent.), which were primary, that is, which occurred without any other accompanying disease, appeared during the grip period, and as stated, 7 of these were observed last year. I also examined the records of the Presbyterian Hospital to learn if a corresponding increase had been noted there, but only 9 cases had been observed in the six years from 1888 to 1894, and these were quite uniformly distributed. The whole matter may be one of those curious coincidences with which medical experience abounds, but it is a strange fact certainly that of all the 88 cases cited, the average number occurring per year has been more than doubled since the grip first appeared among us. The prevalence of thrombo-phlebitis with grip has been commented upon by several recent writers, namely, Laache, Ducket, Orlandos, and Annequin.

An analysis of these cases reveals some interesting facts, which will be briefly discussed.

Termination.—By far the larger number of cases, seventy-four per cent., ended in complete recovery, three were transferred and lost sight of, and eight per cent. were improved. The average duration was between three and four weeks, but many of the cases, especially those involving the femoral or popliteal vein, were troubled for months with obstinate swelling of the leg whenever it was not kept in a strictly horizontal position. Eleven per cent. died, and from the stress which is usually laid upon the danger of embolism from detachments of portions of the original clot, it occasions some surprise that this could not be distinctly proven in any case and only seemed possible in one.

[1] A paper read before the Practitioners' Society, February 1, 1895.

The causes of death in the eleven cases were as follows: 1, carcinoma of gall-bladder; 2, 3, chronic diffuse nephritis; 4, tuberculosis, pleurisy with effusion; 5, lobar pneumonia (preceding the phlebitis); 6, pyæmia (preceding the phlebitis); 7, liver abscess (preceding the phlebitis); 8, thrombosis of portal vein; 10, cardiac thrombosis, possibly embolic, possibly independent of embolism; 11, not given.

The question of the frequency of embolism following the thrombosis is of very great practical importance in regard to the danger of bandaging these cases. It is generally regarded as unsafe to bandage at all while acute symptoms last and there is danger of dislodging portions of the clot. Many patients suffer intensely from pain in the swollen extremity, who could be relieved by bandaging if it were justifiable. One cannot help feeling, however, that this is a hazardous treatment so long as the condition of the clot remains uncertain.

When these patients convalesce and first begin to use the affected limb, it usually requires bandaging for some days or weeks to prevent swelling, and it is a difficult point to determine how soon this treatment is justifiable.

Etiology.—The main interest in the cases under discussion concerns their etiology. In general coagulation of blood within the body is attributed to one or more of three causes: 1. Alterations in the blood-vessels, including inflammation and injury of their walls. 2. Slowing of the rapidity of the blood-current, due to enfeebled heart action, or obstruction to the progress of the blood 3. Alterations in the blood itself.

1. Alterations in the blood-vessels as a primary cause of thrombo-phlebitis, *i.e.*, without extension of inflammation from cellular or other tissues, are believed to be rare. It is much more common for a thrombus to act as a foreign body and excite local inflammation in the walls of a surrounding vein, than for the vein to become primarily inflamed without extension of the process from contiguous organs.

Analysis of the diseases complicating the cases under consideration shows clearly that, with one or two exceptions only, there has been no such extension of inflammation. Thus the thrombo-phlebitis occurred in connection with typhoid fever, 23 times; pneumonia, 6 times; grip, 4 times. There were 3 cases each of pleurisy and chronic diffuse nephritis, 2 each of broncho-pneumonia, anæmia, and appendicitis (one septic), and 1 each of liver abscess, pyemia, septicæmia, carcinoma of the gall-bladder, endocarditis, meningitis, rheumatism, cardiac hypertrophy, gastritis, erysipelas, and ulcer of the leg. The last two might have involved extension of inflammation. On the other hand, a large number of these cases accompanied exhausting, infectious diseases, in which there is known to be change in the composition of the blood proteids. There still remain a dozen cases to be accounted for, in which there was no immediately associated disease of any kind discoverable.

2. It may be asked how far enfeebled heart action and alterations in the rate of blood-flow are responsible for the local coagulation. Certainly a feeble heart-action alone does not satisfactorily explain the clotting. There are too many diseases in which the heart force becomes much weaker than in many of the cases described without there being any such tendency, and

among these cases there were but two in which cardiac disease was prominent.

Undoubtedly, a slow blood-stream, or, rather, blood under slight pressure in the vessel, favors clotting in some instances, probably by allowing the leucocytes to accumulate within it; but there are many contradictory facts regarding this phenomenon. For example, bronchial hemorrhage is often controllable by ligating the extremities, so as to hold back the blood which they contain from the general circulation. When this is done, the bronchial vessels are under less pressure, and the blood stops oozing from them, but it neither oozes from, nor coagulates in, the veins of the extremities in which the current has been stopped entirely by the tourniquets.

It is possible to carefully ligate an artery or vein in an animal by two ligatures, placed two or three inches apart, and tied very gently, and yet the blood between remains fluid for several days, under no pressure and completely at rest. Yet a single ligature upon an artery causes coagulation. In a sacculated aneurism the blood may coagulate next the diseased walls, while it remains fluid in the actively moving stream; yet it does not always coagulate even when at rest, and when the vessel walls are much diseased, nor does it invariably clot in hæmatomata. Slow or feeble circulation alone does not, therefore, necessarily cause coagulation.

Some interest attaches to the site at which thrombophlebitis most often appears. In the 88 cases reported, 63, or about seventy-four per cent., occurred primarily in one or other femoral vein, 12 in the popliteal, 5 in the pulmonary veins, 3 in the cerebral sinuses, 1 each in the tibial vein, the portal vein, and the veins of the neck; 2 in the internal, and 1 in the external, iliac vein. A glance at a diagram of the relations of the femoral vein and its branches makes it easy to appreciate the peculiar arrangement of converging veins which focuses the blood-stream from so many different directions at one point in that vein. The quantity of blood received, the wideness of the vessels at this situation, with the possibility of occasional obstruction in passing beneath Poupart's ligament, produced by muscular contraction, and changes in the position of the limb, all favor stagnation of the blood-stream, in so far as that may be a factor in producing thrombosis. Yet there is no such arrangement in the tibial or popliteal veins, and here the blood-stream has but little interruption. In the cerebral sinuses coagulation might be expected to occur very easily, both on account of their arrangement and the fact that they are more or less subdivided by trabeculæ; yet coagulation is much less frequent here than in the femoral vein.

3. The composition of the blood may be altered. Blood which is abnormal in any respect may coagulate either more or less easily than usual, according to the nature of the change. We are familiar with the fact that in many diseases the post-mortem coagulation may be retarded, yet some of these are the very ones in which phlebitis is known to occur. For example, the blood coagulates poorly in pneumonia, pyæmia, rheumatism, and acute inflammatory conditions generally, and, according to Charcot, in grip.

If the blood coagulates in thrombo-phlebitis solely because of chemical changes in its composition, why should so many different diseases produce the same result; and, admitting the readiness of the blood to coagulate, why should it do so in so many different situations, and yet only in one small part of a vessel at a time, as is often the case? When an artery is ligated by the surgeon, the clot begins to form near the injured wall of the vessel at the ligature, and extends to the first large branch, *i.e.*, as far as the blood is at rest. But in a vein the clot does not always keep on extending to the nearest branch in either direction, nor does it always involve the whole of the column of blood which is at rest. Sometimes the phenomenon is met of a multiple phlebitis with clots in several different vessels, and one or two rare cases have been reported where such clots form, disappear, and reform elsewhere in the circulation.

If we believe that the main cause of clotting in thrombo-phlebitis is an altered composition of the blood plasma, it is difficult to explain why the coagulation does not involve more blood, especially in those cases in which there is no local obstruction and in which the heart action is still strong, as evidenced by its sounds, the force of the pulse, the capillary circulation, and the color and warmth of the skin. That this condition is not at all incompatible with the occurrence of thrombosis was demonstrated by several of the idiopathic cases above mentioned.

If it be conceded that a local inflammation of the vein precedes the clotting in many of these cases, the problem does not become much easier of solution, for, leaving out of count distinctly septic and embolic cases, what should excite inflammation primarily in so many different situations and yet so often in the same place, namely, the femoral vein? Moreover, phlebitis may continue and the vein finally reach a condition of advanced calcareous degeneration before a thrombus forms within it.

These are truly difficult phenomena to explain upon any one theory of coagulation. All that can be definitely said is that in the majority of cases of phlebitis some severe antecedent disease, commonly septic or infectious, produces alteration in the blood which causes it to coagulate in situations where some peculiarity in local condition obstructs or retards the blood-stream.

It will be appropriate in this connection to discuss the present theories in regard to intra-vascular coagulation, and the possibility of therapeutic modification of the coagulability of the blood. Originally the phenomena of coagulation were mainly studied in shed blood, but within a few years much valuable research has been expended upon the nature of the process within the vessels, and it has been discovered that intra-vascular clots may not only differ in the circumstances of their formation but in their actual composition, from the clots of shed blood. The theory of coagulation of shed blood, which has met with final acceptance by most physiologists, is that of Hammarsten, which is, briefly, that fluid intra-vascular blood contains a proteid, fibrinogen, in solution, which becomes solid fibrin through the influence of an unorganized ferment known as the fibrin ferment. The latter is now believed to be a compound of lime with proteid substance, a nucleo-lime-albumin. (Pekelhering.) This theory abandons the earlier ones that fibrin was a union of two separate substances, or that it was a part of a disintegrated complex substance. It is produced by a simple change in physical properties, somewhat as a hot gelatine solution "sets" when it cools, or as water turns into ice, only the agent is not a different degree of temperature but a ferment, and the actual process is different, being a variety of fermentation.

The origin of the fibrin ferment has occasioned as much controversy as the theory of coagulation itself. Dalton[1] wrote, "The evidence appears to be that it comes from the divided or injured vascular coats, or from the interstitial spaces beyond," but this theory was never really substantiated, and it wholly failed to account for the coagulation which may take place within uninjured vessel walls. Schmidt proved that the ferment exists in the white corpuscles, and since the description of the blood plaques or third corpuscles by Bizzozero in 1882, the function of ferment production has been assigned to them also. When blood is shed they quickly disintegrate, part with their fibrin ferment, which does not exist independently in the blood, and coagulation ensues.

Our knowledge of the rapid formation of the diges-

[1] Human Physiology, 1882, p. 229.

tive ferments at the moment of secretion, from previously existing substances called zymogens, makes it seem not impossible that the third corpuscles may produce the fibrin ferment from proteid materials present in the blood at the moment of their disintegration or death. This, however, is purely conjectural. A recent view of coagulation is advanced by Freund,[1] who leaves the ferment out of account, and holds that earthy phosphates from the corpuscles join fibrinogen to form fibrin in shed blood.

It is no doubt possible for clots to form within the blood-vessels in the manner just described of their formation without the vessels, but it is now well known that thrombi which have formed slowly, not at first completely occluding the lumen of the blood-vessel, are composed very largely of the corpuscular elements of the blood which have been held back, so to speak, from the passing current and which fuse together. Such thrombi may contain some fibrin, but intra-vascular clots have been described which consist wholly of white corpuscles and blood plaques. This is an interesting return to the old view of coagulation, for "nearly up to the end of the eighteenth century the clot was supposed to consist of merely adherent corpuscles." (Halliburton.) Late investigations have shown, however, that it is not the clot of shed blood but the thrombus which consists of corpuscles. Zahn declares that the breaking down of leucocytes always precedes thrombosis.

A new study of thrombosis was published last year by Wlassow in Jena.[2] He makes the problems under discussion still more complicated by introducing the red corpuscle as a more or less active agent, whereas heretofore it has been supposed that when found in a thrombus it was merely passively entangled there. He divides thrombi into three varieties, the white, the red, and the hyaline, and says that "The first condition of the white thrombus is the result of the sudden destruction and conglutination of red corpuscles." "The foundation of the white thrombus is not leucocytes, but other morphological elements." And he finds that the younger the thrombus the more red cells or chromocytes it contains, together with smaller granular masses staining with gentian violet, and which he believes are derived from the disintegrated red disks. There are also present mono- and poly-nuclear leucocytes, and the older the thrombus the more leucocytes it is seen to contain.

Halliburton finds that the blood which fails to coagulate in the mouths of the vessels in hæmophilia does clot when drawn, and the same is true in scurvy and hemorrhagic purpura. This emphasizes again the restraining influence of the living vascular walls upon coagulation, which was demonstrated by Brücke as early as 1857, and subsequently by Hunter and Lister.

The history of other coagulable substances than blood in passing through the body is interesting to follow. Take, for example, the course of the chief proteid of milk, casein. It is formed in some manner from the fluid blood by more or less solid cells in the mammary gland. We drink it in fluid form, and in the stomach, by the ferment rennin, it is immediately made solid or coagulated into curd, and thereupon at once redissolved by another ferment, pepsin, into a highly diffusible fluid proteid, or an albumose. It then passes through the more or less solid cells of the intestinal villi into the fluid blood, and, still fluid, it passes through the solid cells of the capillary walls into lymph spaces, and is possibly destined to enter into the composition of some solid structure and must finally become fluid again or go into solution to be split up, re-enter the blood-vessels, or enter the lymphatics, and be removed as waste through solid secreting cells in the tubules of the kidney, passing into fluid urine, and sometimes still further disintegrated and made solid again by crystallization in some form of nitrogen-containing substance.

[1] Med. Jahrb., 1888, p. 259.
[2] Beitr. z. Path. Anat. u. z. allg. Pathol., 1894, xv., 543–580.

We have here presented the phenomenon of an albuminous substance being put through half a dozen changes in density before wholly losing its identity as a proteid, part of which transformations are produced by ferments and part by the activity of living cells. It is not, therefore, a surprise that the living cells lining the blood-vessels may exert a controlling influence upon the density of the blood.

The theory has been somewhat lately advocated by Mills, of Montreal, and others, that the cells lining the capillaries are true gland cells, and there is much to strengthen this belief in the selective action which they seem to exercise in taking out certain substances from the blood and withholding others.

In the liver materials pass through the capillaries which do not do so elsewhere, and the various fluids which abnormally collect in serous cavities after oozing through capillaries and serous membranes differ in composition. The remarkable tendency that the blood displays to recover and maintain a uniform normal density, reaction, and composition, after severe hemorrhage, for example, is far more likely to be due to a vital action of the capillary cells and other gland structures than to any inherent property in the blood itself.

If it be admitted that these capillary cells regulate the density of substances which pass through them and of the fluids with which they are in contact, namely, blood on the one side, and often lymph on the other, may they not also conceivably sometimes affect intravascular coagulation by their control over the composition of the blood?

Ehrlich has stated his belief that "the coarsely granular leucocyte is a unicellular gland," and Kantback and Hardy[1] have shown that the degree of granulation is affected by bacterial irritation in a manner which suggests the alteration in appearance of cells like those of the salivary glands under stimulation.

In commenting upon these results, Sherrington, by a series of most instructive observations upon changes in the blood in inflammation, leaves the question of the degree of this gland-like action of leucocytes somewhat in doubt, but in all the discussions of the causes of intravascular coagulation, the leucocyte still holds prominence as one source, at least, of the fibrin ferment.

The coagulation phenomena produced in albumin by heat or acids, or in muscle fibres in passing into rigor mortis, are not identical with the coagulation of blood fibrin by ferment; yet, as has been shown above, there are some thrombi which are apparently wholly composed of agglutinated corpuscles, which in some cases may perhaps adhere in masses without the agency of a ferment and without the formation of fibrin.

Therapeutics.—The possibility of modifying the coagulability of the blood within the body by practical therapeutic means has only quite lately been demonstrated, and it has been proved that this can be done both as regards the firmness of the clot and the promptness of its "setting" when drawn, and that these conditions can either be intensified and accelerated, or diminished and retarded, respectively.

For example, A. E. Wright[2] reports some very striking results from internal administration of calcium chloride in two-gramme doses. This treatment is based upon the well-known fact that the addition of minute quantities of neutral salts to blood hastens its clotting, and according to Green,[3] and Ringer[4] "lime salts are essential for the efficient formation of fibrin and for the activity of the fibrin ferment." This applies especially to calcium sulphate, and upholds the nucleo-lime theory of coagulation previously mentioned.

Wright's most interesting cases were in four families the members of which had hæmophilia. In every instance he was able to accelerate the coagulation of

[1] Proceedings of the Royal Society, December, 1892.
[2] British Medical Journal, July, 1894, vol. ii., p. 57.
[3] Journal of Physiology, viii.
[4] Proceedings of the Physiological Society, February, 1890

their blood, and in one case the use of the lime salt enabled an operation for removal of nasal polypi to be conducted with safety. He has also succeeded in controlling epistaxis and pulmonary hemorrhage by this simple and apparently efficient means. In some instances he reduced the coagulation time of such blood from nearly an hour to one or two minutes.

Another method which he employed for the same purpose was that of cautious inhalation of carbonic-acid gas, but this treatment is certainly hazardous, especially for a person already reduced in strength by hemorrhage, and it is difficult to understand, for venous blood always coagulates slower than arterial, and a stream of carbon dioxide gas sent through shed blood saturates it and precipitates the fibrinogen in minute flocculi, of course preventing the formation of fibrin by destroying its source. However, Wright reports the successful treatment by CO_2 inhalation of a boy having hæmophilia and who was bleeding to death, and he also used it with benefit, as he thought, in the case of a large aneurism. Strangely enough carbon dioxide gas, which ordinarily prevents coagulation of shed blood, under certain conditions prevents the inhibitory action of albumoses upon that process.

Wright further experimented upon the means of retarding coagulability of the blood, and this question is of more immediate interest in connection with the possibility of preventing the extension of a thrombus once formed.

There are many substances which prevent coagulation when added to shed blood which cannot be made to act when absorbed through the stomach, probably because they are decomposed by the digestive fluids. Such are leech extract and solutions of peptones or rather of hetero-albumose (Pollitzer).[1] The latter, however, acts temporarily in the dog when transfused directly into a vein. Some materials influence coagulation in the blood of one animal and yet fail in that of another. Thus the albumoses which inhibit clotting in dog's blood have no effect upon that of the vegetarian rabbit.

Oxalates, tartrates, and citrates all retard coagulation of shed blood. The first-named salts are too poisonous for internal use by man, and the others, according to Wright, fail to act when given per os.

He discovered that the acids of these salts, tartaric and citric, have a decided inhibitory or retarding action upon intra-vascular coagulation when administered internally, and he maintains, contrary to general experience, that in cases of scurvy with persistent hemorrhage from the gums, the use of fresh lemon-juice may tend to keep up the oozing of the blood. He says that the neutral citrates and tartrates should be given in such cases, but not fresh lemon-juice.

It has long been known that the neutral salts of the alkaline earths, alkaline chlorides, sulphates, phosphates, nitrates, and carbonates are capable of inhibiting coagulation, but they have to be added in concentrated or saturated solution, and in considerable bulk, usually half-and-half, and if subsequently diluted, coagulation is still possible.

In experimenting upon the blood-pressure of dogs, whose blood coagulates even more promptly than man's, I have often endeavored to prevent coagulation in the cannulæ employed, by previous intra-venous transfusion with salt solution, but not until many ounces of such solution have been added to the blood, amounting to nearly half its volume, is coagulation materially affected. There are some fourteen pounds of blood in the human body, and it would not be possible to make therapeutic use of these salts to prevent the formation of coagulæ, and small doses, as in the case of calcium chloride, may only favor the process.

I have been interested recently in experimenting upon the influence of the extract of the thyroid gland upon the blood, and have found that it has a very decided effect upon coagulation, both in accelerating the process and in increasing the firmness of the clot. It has been shown that extirpation of this gland is accompanied by a reduction in the number of red and an increase in the number of white corpuscles,[1] and further that it reduces the oxyhæmoglobin of the arteries and increases the venosity of the blood. The latter condition at least might be expected to retard coagulation in the absence of the gland. On the other hand, I found that when the desiccated substance of sheep's thyroid was added to shed blood, coagulation occurred much quicker, and the resulting clot was much firmer than normal.

It is difficult to determine with absolute accuracy the density of a series of blood-clots. The method employed was to note, 1. The first moment of apparent viscidity of the blood. 2. The earliest moment at which the containing receptacle could be inverted without the clot falling out. 3. The quantity of serum expressed by the clot upon standing for a fixed number of hours.

Glass receptacles of equal size were used, which were filled with equal volumes of blood drawn from a cannula inserted in the femoral artery of anæsthetized dogs. In all cases control experiments were made, because the rapidity of coagulation and firmness of the clot normally varies slightly in different animals.

A summary of these experiments, which were repeated many times with the same result, is as follows: Normal dog's blood alone, 10 grammes withdrawn, became viscid in one minute; gelatinous in four and one-half minutes; firmly adherent to vessel in thirteen minutes. Ten grammes dog's blood with 3.5 c.c of aqueous extract of powdered thyroid became viscid in one minute; gelatinous in two minutes (less than half the normal time); adherent in seven minutes.

The same result occurred with alcoholic instead of aqueous extract. Some precipitation of albumin resulted, interfering with the shape of the clot, but the blood became gelatinous in one and one-half minutes. Ethereal extract caused a similar result.

With a glycerine instead of the aqueous extract the blood became viscid in one-half minute; gelatinous in two and one-half minutes; firmly adherent in four minutes.

I next sought to determine the effect of the thyroid extracts upon coagulation when injected into the blood-vessels. The various extracts above mentioned were injected through a cannula directly into the jugular vein in different animals and allowed to remain long enough to thoroughly commingle with the circulating blood. In each case thirty grammes of diluted extract, representing ten grains of powdered thyroid, were used. A specimen of normal blood became viscid in one minute; gelatinous in four minutes; firmly adherent in twelve minutes. With both alcoholic and glycerine thyroid extracts the blood became viscid in one-half minute; gelatinous in one minute; firmly adherent in three minutes, or one-fourth the usual time. The animals were kept alive under ether for some time, when as no apparent change occurred in the circulation, respiration, or temperature, they were killed. The blood throughout was fluid.

In another series of experiments it was found that successive samples of blood withdrawn from the same animal at intervals of five minutes, after glycerine extract had been injected, exhibited progressive firmness of coagulation, indicating that the influence of the thyroid was becoming more diffused throughout the vascular system. This blood, drawn into a saturated solution of sodium sulphate, failed to coagulate, showing that the action of the thyroid powder was not sufficiently strong to overcome the usual inhibitory influence of that salt. On removing the clots from the glass vessels the one with glycerine extract of thyroid was by far the firmest and smoothest. It was unusually hard, much more so than the normal clot ever becomes.

[1] Journal of Physiology, vii., 282.

[1] Horsley: British Medical Journal, January 30, 1892.

Control experiments were made by adding to the blood similar quantities of water, alcohol, ether, and glycerine each alone. In every case the coagulation was distinctly less firm than when the thyroid extract was used.

Landois[1] and Kirkes[2] mention glycerine among those chemical agents "which hinder or delay coagulation." To do this it must be used in considerable quantities, as pointed out by Charles.[3] In these experiments I found that injected into the circulation in very small amounts, it distinctly accelerated coagulation and produced a very firm clot, although the blood became "lake." The glycerine extract of thyroid powder, however, produced a much firmer clot than the glycerine alone, a result which was confirmed by repeated tests, and the observation of several persons who examined the clots without previous knowledge of their composition.

Several of the samples first drawn were kept for twenty-four hours, when it was found that the clot had shrunk so firmly as to express an equal volume of serum, more than three times as much as that expressed by the normal clot.

Control experiments were made by injecting identical quantities of alcohol and of ether with those used in the other animals, but without the thyroid extract. They showed very slight increase in the rate of clotting and the firmness of the clot, but nothing commensurate with the influence of the thyroid extract.

The conclusion is, that the thyroid gland contains some substance, possibly a ferment, which is capable of extraction by glycerine or otherwise which hastens coagulation of shed blood both when previously injected in the body, and when added after its withdrawal, and which increases the firmness of the clot as well.

Godart and Slosse[4] found that after injection of thyroid extract into the right external jugular vein of a dog, the volume of lymph was increased and it became non-coagulable, less aqueous, and more viscous. It appears, therefore, that the thyroid extract acts differently upon the coagulability of the blood and lymph. Woodbridge procured from a watery extract of the testis and thymus gland a substance which causes immediate death by general coagulation when injected into the veins.

These experiments demonstrate the curious fact that blood can be so altered in composition as to coagulate in one-third or even one-fourth of the usual time and form a much firmer clot which expresses triple the normal quantity of serum, and yet not coagulate while still circulating within healthy blood-vessels. I have lately seen an unusual case of this type in a lady who was referred to me for blood examination by Dr. Loveland. She is about sixty-four years of age, active, and in good general condition, but for two years she has suffered from a vasomotor neurosis causing annoying suffusion of the capillaries of the face and neck. This led to an examination of her blood, and the red corpuscles, to my surprise, were found to number approximately seven and a half millions, and the hæmoglobin, as measured by the Fleischl hæmoglobinometer, was one hundred and thirty per cent. On withdrawing blood from the punctured finger it congealed almost immediately, in one-sixth the usual time, and formed so firm a coagulation in two minutes that it took considerable rubbing to detach it from the finger. The patient's heart and circulation appeared normal. Here was an instance of greatly concentrated blood, coagulating when shed with several times the normal energy, and yet with no evidence or history of any intra-vascular coagulation.

Dr. Loveland has lately reported other examinations of the blood[5] in a series of cases, in one of which the red corpuscles numbered 10,600,000, in another 8,940,000, in one 8,620,000, and in six others over 7,000,000 per cubic millimetre. The hæmoglobin was correspondingly increased, in two cases to one hundred and forty-five per cent. Yet in none of these cases, as he informed me, had there been any special tendency to intra-venous coagulation, although the density of the blood was so greatly increased.

It has just been shown that blood of double the normal number of red corpuscles is not too dense to circulate freely, and that blood which coagulates in less than half the usual time when shed, does not necessarily do so within the body. It is equally true that anæmic and watery blood, and even leucocythæmic blood containing an enormously increased proportion of the ferment-holding leucocytes, does not necessarily coagulate any more easily. Anæmia accompanying debility from exhausting diseases may be complicated by thrombo-phlebitis, but severe primary anæmia and chlorosis have not been observed to furnish any marked predisposition to it, although it may occur in these diseases. Cockle has reported five cases of thrombo-phlebitis with chlorosis, two of which were in the cerebral sinuses and the other three in the legs, and Laache reported similar cases.

"In pernicious anæmia the blood, when shed, coagulates with difficulty" (Eichhorst).

Outside of the body, dilution of the blood with water added in any proportion short of fifty per cent., either alone or with a neutral salt, favors coagulation, although the resulting clot may be less firm; but water injected within the blood-vessels, or transfused salt solution, has not been found especially liable to occasion thrombosis. Uric acid and lecithin both favor coagulation in shed blood, yet gout is not often accompanied by thrombosis. It is mentioned but once in the series of cases herein reported.

Halliburton states his belief that pathological intravascular coagulation of the blood "may be from an alteration in its chemical constitution, as after certain acute specific diseases, such as typhoid fever, or after pregnancy (phlegmasia dolens), the nature of which chemical changes is not known." And he goes on to say that "In other cases the intra-vascular coagulation is due to the absorption or experimental injection of poisonous substances into the circulation. These are probably proteid in nature. Thus in a wound in which the discharge is pent up the absorption of such exudation will in mild cases bring on a rise of temperature causing one form of surgical fever, but in other cases will cause intra-vascular coagulation. The material which produces these poisonous effects is probably the fibrin ferment; the normal body has the power of resisting this substance to a very great extent."

In consideration of all the facts above reviewed it seems to me, on the whole, most probable that thrombo-phlebitis is ordinarily produced, not by modifications in the number or quality of the leucocytes or chromocytes, nor yet in the fibrin antecedents, not solely by modifications in the blood-stream or vascular walls, but by the addition to the blood of some proteid product which is either identical with the fibrin ferment, or which has a similar coagulating power.

Finally, it is possible, although it cannot yet be definitely asserted, that this proteid is developed from albumoses formed in the blood or absorbed from the tissues and produced as a result of the action of micro-organisms.

In conclusion, I may say that I feel that I have dealt with an unsatisfactory subject in that many questions have been raised which are difficult if not impossible to answer in the light of our present knowledge of coagulation. To me this subject has always been one of the most interesting and extraordinary of what for lack of better term are sometimes called the "vital phenomena." The blood has tempted many experimenters to solve its mysteries, and in many respects the further one studies coagulation the more inexplicable it be-

[1] Text-book of Human Physiology, edition 1889, p. 72.
[2] Hand-book of Physiology, 1892, p. 127.
[3] Physiological and Pathological Chemistry, 212.
[4] Journal de Médecine, Paris, July 2, 1892.
[5] Journal of Nervous and Mental Diseases, November, 1894.

comes. However, that we may perhaps derive some practical knowledge from those present, I would suggest for discussion the points which have been raised in regard to, 1. The frequency of thrombo-phlebitis. 2. Its etiology, especially in relation to grip. 3. The possibility of modifying the coagulability of the blood by therapeutic measures, in any disease.

THE PRESENT STATE OF OUR KNOWLEDGE OF GOUT.[1]

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Introduction.—Gout is a subject which has not been publicly discussed in this Section for a long time, and I therefore venture to present an outline of the subject together with a review of certain definite additions to our knowledge that have been made during the last few years.

Historically there is no disease more interesting than gout, whose name is associated with great physicians and illustrious patients in all ages. Hippocrates, Celsus, and Galen had a fairly correct idea of this disorder. To those great founders of chemical science, Wollaston and Scheele, we owe a debt for light thrown upon the chemistry of this disease. It is in England that we find the greatest number of eminent names associated with the literature of gout; but that of the earliest, the great Sydenham, still shines the brightest of them all. To England, also, we are indebted for the latest important advances, through the work of Sir William Roberts and a much younger man, Alexander Haig.

The name gout, once applied in a more restricted sense, is now made to include all the conditions due to the gouty diathesis. It has this advantage over the newer terms, lithiasis or lithæmia, that it does not imply any definite theory of the disease.

Theory.—The theories of gout have been many. With them are associated among many others the names of Cullen, Garrod, Roberts, Duckworth, and Haig. Of these, some are still living and working at the problem.

From the earliest times theories of gout have prevailed, predicating a foreign substance circulating in the blood. Deposits of foreign material in the tissues have always been noticed. Before the time of the development of chemistry there was much speculation and ingenious guessing as to the nature of this blood poison and of the gouty deposits. An old writer, named Hoffman, defended with some degree of poetic justice the belief that the accumulation in the joint was the same as the tartar that accumulates in wine-casks. Wollaston by chemical analysis determined once for all that the gouty deposits were urate of soda. Urate of soda in the blood was discovered by another chemist, Scheele, who, though a poor apothecary all his life, yet was one of the best chemists of Europe. Chemical science, when it acquires territory by discovery, does not recede, therefore we can regard these things as fixed. Later writers have been devoted to the discovery of the sources, proportions, and relations of the urates rather than to the discovery of any other new element. In knowing that the urates in their various relations are a manifestation of a gouty condition we have not gone far enough. For that reason a number of theories have been propagated. Cullen advanced nervous theory, appreciating that the gouty diathesis was an expression of a general disturbance of the body. He blamed the nervous system as the controlling influence. Sir Alfred Garrod, though historically not the author of the uric-acid theory, is still well entitled to its credit because of his many careful studies, which have convinced men of its truth. He showed that there was an increase in the uric acid (of course in combination) in the blood, due either to increased production or to diminished elimination, and believed that the alkalinity of the blood was also lessened. He supposes that the urate of soda is deposited because when the alkalinity of the blood is diminished it no longer holds it in solution. The urates being deposited about a joint, inflammation naturally follows.

Sir Dyce Duckworth advocates a theory which may be called the neuro-humoral theory. He believes that not merely one organ or two organs are at fault, whereby uric acid is formed at times in excess, but that there is a neurosis of the nerve-centres, and a peculiar incapacity for normal elaboration within the whole body.

Ebstein's theory is interesting. He believes in a nutritive tissue disturbance, leading to small necrotic areas in which the urates are afterward deposited.

Sir William Roberts's study of the chemistry of uric-acid compounds, as detailed in his Croonian Lectures in 1892, mark a distinct advance in our knowledge, and will repay a detailed study. His work was conducted in the careful, scientific manner characteristic of a good chemist, but controlled by the broader views of a clinical observer. These lectures are a good example of the kind of work by which real advances in medicine are to be accomplished. We cannot follow in this place his chemical reasoning and experiments. His first important result was a determination of the chemical composition of the amorphous urates. It surprises one to think that only so recently have we obtained a definite knowledge of the structure of this very familiar urinary deposit. Roberts proves that the amorphous urates are quadriurates. Representing the uric-acid radical by $\overline{U}$, we can represent the formula by $H_2\overline{U}$, $MH\overline{U}$. In this formula M represents the base. I quote:

"The chemical reactions which are concerned in the spontaneous precipitation of uric acid in acid urines are very interesting to trace out. It is certain that uric acid always subsists in the unchanged urine as a quadriurate. The urine in which this substance is dissolved is a watery solution which contains a number of mineral salts. Among the salts the most important, in regard to the point under consideration, are the alkaline phosphates. These regulate, in the main at least, the reaction of the urine. The phosphates easily oscillate between the monometallic forms, or superphosphates, which have an acid reaction, and the dimetallic forms, which have an alkaline reaction. When the former preponderate, as is usually the case, the urine is acid; when the latter preponderate, the urine is alkaline.

"We have, therefore, in an acid urine the quadriurate existing in the presence of water and of superphosphates. These conditions insure the ultimate complete liberation of the uric acid. The first step in the process is the splitting up of the quadriurate by the reaction of the water of the urine into free uric acid and biurate. By this reaction half the uric acid is set free. But the biurate resulting from this reaction is immediately retransformed in the presence of superphosphate by a double decomposition into quadriurate. Two atoms of biurate with one atom of monometallic phosphate change into one atom of quadriurate and one atom of dimetallic phosphate, according to the subjoined equation:

$$\underset{\text{Biurate.}}{2\,(M\,HU)} + \underset{\text{Monometallic phosphate.}}{(MH_2PO_4)} = \underset{\text{Quadriurate}}{(H_2U,\,MHU)} + \underset{\text{Dimetallic phosphate.}}{(M_2H\,PO_4)}$$

"These alternating reactions—breaking up of quadriurate by water into biurate and free uric acid and recomposition of quadriurate by double decomposition of biurate with monometallic phosphate—go on progressively until all the uric acid is set free."

Having worked out the chemistry of the quadriurates Roberts proceeds to consider the effects of various conditions upon the precipitation of uric acid, but this has a more important bearing upon the subject of gravel

[1] A paper read before the Section on General Medicine of the New York Academy of Medicine, March 19, 1895.

than of gout. He draws the following important conclusions concerning uric-acid precipitation in gout: He believes that the normal physiological condition of uric acid in the body is that of a quadriurate, and that any departure from this condition must be regarded as pathological. He traces the changes which the quadriurate undergoes in the blood leading to the production of sodium biurate and its deposition in the tissues. *He finds that the solubility of sodium biurate is as follows: In pure water at 100° F., about one part in a thousand; in water containing one-tenth of one per cent. of sodium bicarbonate, the solubility was diminished one-half and progressively diminished as more bicarbonate was added.* The same principle was brought out by experiments with sodium chloride, sodium sulphate, sodium salicylate, and sodium phosphate. On the other hand, the effects of different quantities of potassium carbonate, potassium chloride, and potassium phosphate upon the solubility of biurate of soda were very slight. Calcium salts diminished solubility like the sodium salts.

Sir William Roberts sums up as follows: "The influence of a salt depends exclusively on the nature of the base, and has no reference to the acidulous radical with which the base is combined. *Salts with an alkaline reaction, such as carbonates and phosphates, do not differ in the least from neutral reacting salts, such as chlorides and sulphates.* Salts of soda exercise a strong deterrent influence, and the deterrent influence increases with the increasing percentage of the salts in solution. Salts of lime, magnesia, and ammonia have also a deterrent effect, but slighter than that of salts of soda. Salts of potash have no effect either way."

The existence of a gelatinous or hydrated modification of the urates would seem of much interest, because it is easy to imagine such a gelatinous form being deposited in the tissues, and afterward reverting gradually to the crystalline form.

Roberts's summary of the history of uric acid cannot be better given than in his own words: "The facts elicited enable us to obtain a coherent view of the state and destiny of uric acid in the body. It has been shown that in normal urine uric acid always exists as a quadriurate, and that in animals which eliminate their nitrogen as uric acid, like birds and serpents, the urinary secretion is composed entirely of the same combination. Proof has also been furnished that in liquids containing alkaline carbonates, such as the serum of the blood and its derivatives, lymph and synovia, uric acid passes into solution in the first instance as a quadriurate. From these considerations it may be inferred that in the normal state uric acid is primarily taken up in the system as a quadriurate, that it circulates in the blood as a quadriurate, and that it is finally voided with the urine as a quadriurate. In perfect health the elimination of the quadriurate proceeds with sufficient speed and completeness to prevent any undue detention or any accumulation of it in the blood; but in the gouty state this tranquil process is interrupted, either from deficient action of the kidneys, or from excessive introduction of urates into the circulation, or from some other cause, and the quadriurate lingers unduly in the blood and accumulates therein. The detained quadriurate, circulating in a medium which is rich in sodium carbonate, gradually takes up an additional atom of base, and is thereby transformed into biurate. This transformation alters the physiological problem. The uric acid, or rather a portion of it, circulates no longer as the more soluble and presumably easily secreted quadriurate, but as biurate, which is less soluble, and probably also—either for that reason, or because it is a compound foreign to the normal economy—less easy of removal by the kidneys. The biurate thus produced exists at first in the gelatinous modification, but with the lapse of time and increasing accumulation it passes on into the almost insoluble crystalline condition, and then precipitation becomes imminent, or actually takes place."

Passing from this very inadequate consideration of Sir William Roberts's work, let us consider that of Alexander Haig. It is an interesting contrast to that of the former in that it is founded to a large extent on clinical observation with himself as a patient. In the investigation of recurrent migraine he arrived at certain conclusions after elaborate clinical and chemical investigation. After trying a great variety of alternations of diet, he gave up all butcher's meat and replaced it by milk and fish. On this diet the headaches disappeared by the intervals becoming longer, until finally he went eighteen months without an attack of notable severity. In searching for the cause of this phenomenon he discovered the relation between his headache and the excretion of uric acid, and he discovered means by which he could control the excretion of uric acid from day to day, or from hour to hour, and that in altering the uric acid he could alter the symptoms relating to it. He noticed that when he produced an increased excretion with alkali, he produced the headache, mental depression, etc., and when he stopped the plus excretion with an acid he removed all these symptoms. But he noticed that in curing the headache by giving the acid he produced a certain amount of shooting pain in the joints, the meaning of which probably was that the uric acid which failed to appear in the urine must have been held back in the joints and produced pains. The headache depended upon the absolute quantity of uric acid circulating in the blood.

Haig's interpretation of the phenomenon is as follows: He supposes that gouty symptoms are due to an accumulation in the body of uric acid depending upon a diminished excretion. He points out that if excretion falls behind secretion by a minute quantity in the course of time there will be an accumulation. He supposes that so long as this accumulation is quietly stored up in the tissues there are no constitutional symptoms, but when for any reason this is liberated and circulates in the blood the symptoms appear, and naturally enough an excess appears in the urine. This theory certainly explains very well the increased excretion that he observed at the time when symptoms were present or imminent. This also explains the periodicity of attacks. He believes that in persons in whom the balance of secretion and excretion is but very slightly deranged there is a very gradual accumulation, and that such persons will suffer from gout in some of its more obscure forms after years have elapsed.

Though Roberts and Haig have thrown light upon the chemistry of gout, it is evident that there is something more underlying the condition. Many good observers and thinkers, when viewing gout in connection with heredity and its many various manifestations, have felt convinced that the nervous system was a strong factor in its production. In explanation of the symptoms of acute gout the inflammatory reaction due to the deposits in the tissues of the biurate is sufficient, but in the explanation of the symptoms of chronic gout, affecting as it does the organs in various parts of the body, the mechanical theory has heretofore not seemed sufficient. The uric acid has been spoken of as a poison circulation in the blood. For a belief in the poisonous action of uric acid in any quantity that could possibly be present in the blood there is no foundation in experiment or observation. A more accurate explanation is probably the occurrence of precipitations of crystals of biurate of soda in various tissues of the body. It can easily be believed that so soon as the supersaturation of the blood is no longer present these are again taken into solution, though the damage may remain. Certainly the pricking pains so familiar to gouty people could be explained in this manner.

Symptoms.—*Acute Gout.*—The descriptions of all who have observed a first attack of acute gout in a young person show a surprising uniformity in the symptoms presented. The attacks come in the early

morning hours without previous warning. The patient is aroused by a severe pain in the metatarso-phalangeal articulation of the great toe. The pain has been a subject for description by writers of all times. Hippocrates as a medical man and Lucian of Athens as a poet described it long ago. Our own Benjamin Franklin turned aside from political duties to write a most vivid description of this pain. All seem to agree that the pain is a very bad one. Following the onset of the agonizing pain the joint swells, becomes hot, tense, and shiny. There is much fever and restlessness. Toward morning the severity of the symptoms subside, to reoccur again the next night, and so on for four or five days. All authors seem to agree that a very characteristic point is that the inflammation is followed by desquamation. To us in America this is not a familiar picture. We omit for want of time a consideration of the symptoms of chronic gout.

Irregular Gout.—In the absence of a sufficient experience with acute gout, we are apt, even when we recognize irregular manifestations, not to feel sufficiently that their successful management will depend upon keeping clearly in mind their relationship with the acute condition. We have all been taught to look upon gout as a cause of eczema; our attention has sometimes been directed to it as a possible cause of gastro-intestinal disorders. The teachings in this country in respect to cardio-vascular symptoms direct the student's attention too exclusively to the kidneys. We have attributed many nervous manifestations caused by uric acid retained in the system to other causes.

It is more in the appreciation of these irregular manifestations of lithæmia that there has been an advance from the older writers. Since Sydenham's time no one has improved upon the clinical description of regular gout. This is not surprising when we consider the wonderful good judgment of this man, combined as it was with great powers of observation, and above all with the fact that for thirty-five years before writing his article he had suffered severely from gout himself, and had carried out extensive observation and experiment upon his own person. Sydenham is called the English Hippocrates. His writings are delightful reading at the present time.

Distribution.—This brings us to a consideration of the occurrence of the gouty diathesis in various parts of the world, especially our own country. Since Sydenham's time, England has remained famous for gout. Sir William Savory says that in some one or more of its various phases a large proportion of the population of England do not attain advanced age without some personal experience of it. In Germany it occurs, but the name gout is there given to a large number of cases which English-speaking people call rheumatic. In America we have been fairly free from gout as compared with our English cousins, but still it may be possible that gout is more frequent than we like to believe, expressing itself in atypical ways. We have escaped because gout is a disease of old nations. A mixing of races always weakens hereditary diseases. Another reason that may be thought of is the comparatively small amount of sour wine consumed in this country. Unfortunately we are rapidly outgrowing these conditions; our population becoming more fixed, the growth of native wine with the springing up of a leisure class are factors which may well lead us to expect more typical cases of gout than in the past. May it not be, however, that we have been deceived in thinking gout less frequent in this country because we have overlooked irregular expressions of it? Granting the nervous system as a cause and disturbance of digestion as an occasion of gout, may it not be that the predominance of the nervous cause, in the absence of excess in eating and drinking, has led to the gradual establishment of gouty conditions without the intervention of acute attacks? Americans are temperate people in regard to drink, but an intemperate people in the expenditure of nervous energy, and if the nervous system, which presides over the chemistry of the body, is maltreated and suffers, in turn it will not be surprising if the chemical manipulations result in uric-acid compounds instead of urea.

Another thing that covers up cases of gout is a primitive habit that we have of naming symptoms instead of pathological conditions. When a layman or nurse speaks of dropsy as a disease, we say indignantly that it is only an expression of disease, but how often we write in our case-book "neuralgia," "headache," "neurasthenia," and like terms, when we know if we stop to think that we are falling into the same habit as the person who calls dropsy a disease, and it is more than likely that often we are mislabelling gouty conditions.

Our eminent countryman, Fordyce Barker, is quoted by Fothergill as saying of us, his countrymen, in connection with gout, that we "do not know it when we see it." Fothergill goes on to remark "that gout cannot be demonstrated in a test-tube, or mounted on a slide with Canada Balsam, though Garrod's 'thread test' can often be utilized no doubt."

The same authority, in the introduction of his popular book, "Gout in its Protean Forms," says "the anomalous and especially the nervous manifestations of gout have been considered at some length, there being a general consensus of opinion that these forms of gout are on the increase at the present time as compared with regular articular gout." Gout has always been a disease better recognized by older than younger practitioners, and the reason seems to be that the symptoms which are the outcome of a condition of the blood laden with uric-acid compounds are very numerous and various. The instruction in colleges and in hospitals teaches a man to recognize and expect to find well-marked cases of disease; the instruction of private practice alone teaches one to appreciate the existence of obscure conditions giving rise to many slight symptoms, extending over a part or a whole of the patient's life.

In reviewing literature of gout it has become plain that a considerable number of symptoms which in daily practice have been attributed to neurasthenia are definitely considered as gouty in their origin by men who have the confidence of the world. This is especially true of the muscular pains, the tender joints, the disturbances of sensation of middle-aged people. It has long been difficult to understand the distribution of these symptoms in connection with neuritis or functional nervous diseases. Neurasthenia is a sufficiently definite condition for us still to diagnose it with confidence in many cases, but with the proper conception of the scope of gouty symptoms, we can write gout many times where we have been accustomed to write "neurasthenia?"

The fact that urate of soda can be deposited quite suddenly when supersaturation of the blood exists and quickly redissolved when the blood is less than saturated explains very well the possibility of transient gouty symptoms. The crystals form in the tissues, do their damage, and disappear. This applies especially to the more internal structures of the body, for when deposited near the surface or in the cooler and more sluggish extremities the deposits have a greater tendency to remain.

Treatment.—There is a habit among all those who discuss the treatment of gout which has led to much misapprehension and much misplaced attention. It is the habit of speaking of uric acid with an emphasis on acid. Of course we all know that we usually mean uric acid in combination. The reaction of the blood is never acid. Roberts has shown that the solubility of urates is not influenced by the degree of alkalinity as far as laboratory experiments could prove this point. It would seem that we must forego the habit of speaking of the gouty diathesis as an acid condition of the

system. That the use of certain alkalies has been useful therapeutically has not been on account of their reaction but the particular bases present in them.

In expressing these views we have regard to the arguments and experiments of Roberts, though, of course, they are directly opposed to those of many other writers.

Haig found that phosphate of soda increased remarkably the excretion, but also increased the amount in the blood, the excess, he thinks, coming into solution from the liver, spleen, and tissues. He found that acids, lead, and iron interfere with its solubility, and therefore with its elimination. His views concerning lithia are worthy of attention. He remarks that although lithia is a beautiful solvent of uric acid in the laboratory, the laboratory also shows us that it forms an insoluble compound with phosphate of soda. Now phosphate of soda is so abundant in the blood that it is incomprehensible that lithia taken by the mouth can get at the urates without coming in contact with the phosphate of soda. This is directly opposite to the testimony of good clinical observers, and certainly of the immense volume of literature upon the subject of lithia waters that comes to us in our daily mails, but it is not an unreasonable suspicion that the chief value of these waters lies in the increased quantity of water taken by those devoted to their use.

It might not be out of place here to allude to the bottled-water craze. I say bottled water because an examination of the formulæ given by the people who advocate their use often shows that the only difference between the waters they sell and the water that may be had from the Croton faucet, or from any farm spring, is that one comes from bottles and the others from pipes.

In the absence of an acquaintance with quantitative chemical analysis the attention of the average man is so much concentrated upon the imposing list of ingredients written out for him in full of chemical terms, and printed in heavy type, that his attention is diverted from the local decimal figure which represents an amount per dose of the water so small that one must be mathematician to appreciate such a quantity. It is a fundamental property of decimals that the more zeros between the decimal point and the first figure representing value, the smaller the quantity they stand for, and yet the impertinent agent of a mineral water will occasionally point with pride at the size of these decimals.

It is time that medical men should cease allowing themselves to be imposed upon by such childish frauds, and keep at hand an analysis of Croton water, so that when prescribing the identical water to a patient they may patronize the pipe instead of the bottle, and save the patient from enriching some adventurers.

The treatment of an acute attack of gout is conducted on much the same principles as that of a like inflammatory condition in any other disease, but the constitutional cause must always be borne in mind. As to the advisability of giving drugs antagonistic to the disease at this time there has been much discussion for a great many years. Authorities have swung back to the original idea that drugs may be used. Much more important on account of the larger number of cases is the treatment of chronic gout. This must be to a great extent hygienic. Diet should be plain, moderate in quantity. Fluids, as milk, mineral waters, and plain water itself, should be taken abundantly. A regular life with plenty of fresh air and freedom from mental overwork or worry are of extreme importance. It is not as easy to be so sure as to exactly what foods are best as it is that the quantity must be moderate. Most people after middle life take much more food than is necessary. Starchy and saccharine foods must be limited, not so much because they themselves are dangerous as that they tend to disorder and weaken the digestive system. Fresh vegetables, which we are so fond of recommending, but which so often are hard for people to get, may be taken freely. A gouty person should avoid unreasonable dishes; alcohol in all forms should be avoided. When it is necessary or unavoidable the acid wines, such as champagne, must be avoided, and alcohol given in the form of good whiskey. All intoxicating liquors may be regarded as a mixture of alcohol, water, and other constituents which may be grouped together as giving the taste to the liquor. This latter group may or may not be injurious, but when we are seeking an alcoholic effect it is just as well to choose a mixture in which this latter group is present in the smallest quantity. Good whiskey supplies us with such a mixture. A strong person is often benefited by cold bathing, but this is not to be recommended except to such as are vigorous, and is not to be continued if found to be injurious. The fact that mineral waters are so much more successful when taken at the springs is due to the regimen, which can be enforced much better than at home. A person who has gone many miles from home is prepared to undergo self-denial, which from habit at home might be more difficult to submit to.

Haig has discussed most interestingly the effects of meats which contain uric acid. He argues that when we are dealing with a disease in the causation of whose symptoms uric acid plays so large a part it is our duty to know the quantity of uric acid in the food that we consume. He does not differ from other observers in believing that the excess of uric acid is due to deficient excretion rather than excessive secretion or ingestion, but he found that matters were made worse by additional quantities of uric acid taken with the food.

Drugs.—Of the drugs that have been vaunted as specifics for gout the latest to engage our attention is piperazin. Its value, like most of its predecessors, is derived from its function as a uric-acid solvent, but this very argument is refuted in the same manner in which it is derived.

Sir William Roberts showed that piperazin solution in blood-serum of a strength greater than could possibly occur in the body had absolutely no effect on the solubility of urates. Disinterested clinical reports are not yet obtainable in sufficient numbers to form a judgment. We must not give too much weight to Sir William Roberts's experiments, because we have reports from Germany in which Biesenthal shows that in the gout produced in animals by the use of chromic acid uratic deposits were prevented by the use of piperazin. In the conduct of these experiments a scientific method seems to have been pursued. Two animals were subjected to injections of chromic acid for five weeks; one was given piperazin daily; the other was kept under identical conditions but received no treatment. The tissues of the latter were filled with copious deposits of uric acid, those of the former were free. It is not at all certain that this artificial disease produced in animals is identical with true gout, but it would seem that the weight of this evidence was at least equal to that of the English experiments. We must make our final appeal to clinical experience, that source from which it is so difficult to get a positive answer.

The use of salicylate of soda as an uric-acid solvent is gradually becoming popular, independent of any theoretical indication drawn from similarity of gout to rheumatism. There is still an impression on the part of some observers that rheumatism and gout have a close relationship to each other. This is being strengthened in some quarters by the use of the same drugs with some success in the treatment of both. Haig found by actual observation that salicylate of soda increases the excretion of uric acid. Phosphate of soda would seem to be a rational drug to use. The use of colchicum in chronic gout does not receive much support.

J. Mortimer Granville recommends the persistent internal use of iodine upon the belief that it is capable

of chemically uniting with excess of soda, detaching it from its combination with uric acid, and thereby rendering the resulting iodide of sodium and uric acid more soluble and easy of elimination. He also recommends lithium as a solvent.

The number of remedies for gout has always been very large. The great comic poet Lucian devotes many stanzas of his comedy "Podagra" to an enumeration of the remedies in use in his time. The opinion among physicians of the best judgment has remained, since the time of Lucian, that most reliance must be placed upon hygienic treatment.

Conclusion.—We have diseases affecting particular organs of the body. We have also diseases which affect the body as a whole. It is the dream of some enthusiasts that every morbid condition will some time be explainable by bacteriology, but, large as is the field of biology in explaining all infectious and most acute diseases, still we must allow to chemistry a place in the causation of nutritive and many chronic conditions. We may think of the human body as a most wonderful chemical laboratory. We grant to the stomach its title of chemist, but there are many other chemists in the body. The chemical machinery of the body is not perfectly apparent to the superficial observer, because, after all the other members had been placed in the situations best suited for their work, the chemical organs were fitted in wherever they would go. The circulation is the medium through which the chemistry of the body is carried on, and its perfected product is a pure blood. If you have ever examined large chemical works which have as a product a single material you will find the construction of the body has been imitated. Starting at one place, the raw material is reduced to a solution; then this is conducted to the next apartment, where something is added or taken away from it; from there to another apartment, and so on throughout the whole works, each department performing some function in connection with the circulating material until finally it comes out a complete product. In the same way in the body the blood circulates through a great many different organs, whose function is to modify in some way its chemistry. As the blood in its office of nutrition of the body must circulate everywhere, it has been possible to locate these organs in the most unexpected places. This renders our study of the chemistry of nutrition very difficult. The importance of the liver we have known for a very long time. Of the spleen we know much less; of late our attention has been concentrated upon the thyroid gland. The marrow of the bones we think has an important function. There are a thousand other laboratory assistants in the lymphatics. All this great system is presided over by the chemist-in-chief, the nervous system. It would be just as idle to deny the importance of the controlling function of the nervous system as it would be in chemical works to detract from the importance of the chemist-in-chief, who alone keeps the whole establishment working harmoniously. With this picture in our minds of the human body as a laboratory, we are in a position to appreciate the nature of that class of diseases of which gout is one, and to understand why now one organ, now another, and finally the nervous system itself, has been indicted as the inciter of the difficulty.

No satisfactory description of chronic diseases has ever been written. The reason may be that diseases are not, as the indexes of our books think, distinct entities. One chronic disease gradually fades into another, or two run along side by side, intermingling their symptoms. To the honor of medicine it may be said that many men have arisen who sought medical truth for truth's sake, but it has been unfortunate that no one has been able through the vehicle of language to convey the best qualities of this knowledge to others. The great Sydenham said of himself: "It is my nature to think where others read; to ask less whether the world agrees with me, than whether I agree with truth; and to hold cheap the rumor and applause of the multitude."

The progress of medical truth and the cultivation of the power of conveying it to others will be much advanced when all can say that it was their nature to think, and their profound desire that the conclusions of their thoughts should coincide absolutely with truth. An appreciation of chronic diseases in all their bearings upon the life and happiness of the patient is only obtained by much thought and observation. The beginner looks with too much anxiety, the older man with too much philosophy at chronic conditions. The beginner has not assimilated the important law by which, physically and mentally, men adapt themselves to the inevitable. The older man may have gone too far, and has flagged in the attempt to modify what he knows he cannot cure. Another thing that has made the description of chronic diseases deviate from the average truth as seen in practice is that most writing is done from the standpoint of hospital practice, to the neglect of the experience of private work. This is especially unfortunate in the case of gout. Again, it is true in these days, at least, that nearly all young men write, and nearly all old ones are silent. For this reason it would seem that the cause of truth will be advanced if the conceptions of gout, as presented in this paper, can be discussed and criticised by those of the maturest judgment.

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OBSERVATIONS UPON MULTIPLE SURGICAL OPERATIONS, WITH A REPORT OF A CASE IN WHICH NINE OPERATIONS WERE PERFORMED AT ONE SITTING.[1]

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Before the introduction of anæsthetics into surgical practice practitioners of our art cultivated rapidity of operating as a *sine qua non* of professional success. Surgeons who planned boldly and executed with rapidity and dexterity were always in demand in the days when the cries and groans of the patient were so loud as to drown the voice of the operator as he gave directions to his assistants. Every second saved, under these circumstances, was a distinct gain to the patient, and indirectly to the operator himself, if he chanced to be a man of heart in the sentimental sense, as well as a man of nerve in the professional sense. No wonder, then, that operations were carried out in a typical manner only, as carefully planned, all other considerations being made subservient to the one and great desideratum, namely, that of completing the operation as speedily as possible, thus relieving the patient of physical torture and the surgeon of mental strain.

With the advent of anæsthetics came the introduction of more extensive and elaborate procedures in operative work, until to-day it is quite as necessary, in the patient's best interests, to cultivate combined rapidity and manual skill as in the days when routine operative work included but little more than trephining a skull, amputating a limb, or cutting for stone; this notwithstanding the fact that the patient, at the present day, is entirely oblivious of pain or the startling character of his surroundings. Not only have the older operations been elaborated upon, and new and more extensive ones introduced, but occasions not infrequently arise where several operations are performed upon the same patient at one sitting. The justifiability of the introduction of more than one operation at a single sitting rests, first, upon the advantages to be gained by this course in the individual case; second, upon the

[1] Read before the Brooklyn Surgical Society, December 6, 1894.

condition of the patient at the time of the operation, particularly with reference to his powers of resistance to shock and hemorrhage, together with the dangers of the anæsthetic; and third, to a proper estimate of his reparative powers. Further, the number, character, and extent of the proposed operations are to be taken into account, as well as the resistance to infection and tolerance of interference of the parts operated upon.

All of these must be carefully weighed and a decision arrived at by the person who is held responsible for the patient's welfare, namely, the operating surgeon himself. Each case is to be carefully studied in all its bearings, and above all things the element of time taken into account. This will involve considerations of facilities for performing the work, the familiarity of the operator with the proposed operations, his ability to execute them in a rapid and at the same time safe manner, and last, but not least, the availability of skilled assistants or coworkers who are familiar with his methods.

Preliminary Operations.—These may be defined, 1, as those which are of a precautionary nature, and are designed to prevent dangerous complications of the operative procedure; and 2, those which are intended to facilitate the steps of the main operation. Of the first class may be mentioned ligature of important vessels as a preliminary step in the removal of certain tumors, excision of the tongue, etc. In the second class are included such operations as temporary osteoplastic resection of the upper jaw in the removal of growths from the naso-pharyngeal space, and tenotomy as an aid in the reduction of the fragments in fractures, and in certain dislocations as well.

Simultaneous Operations.—In crush injuries in which more than one member is involved, requiring double amputation, or an amputation and a resection; in cases of injury to the head, in which trephining is necessary in addition to either an amputation or a resection, or both, simultaneous operations may be indicated. In addition to these, necrosis of the bones of both legs or of other diseased conditions occurring in parts sufficiently remote from each other to permit two operators to work at the same time, constitute examples of the indications for this class of multiple operations. In the patient's own interests, and where the conditions will permit of it, the operation should be so organized, under these circumstances, as to permit of simultaneous procedures at the hands of two operators and two corps of assistants. This is particularly true of emergency cases, where the operations are entered upon during the primary period, and where the patient's life may depend upon the prompt removal of the injured parts, in order to permit of the arrest of hemorrhage or to arrest progressive shock from the presence of crushed and mangled nerve-trunks.

Coincidental Operations.—In this classification may be included those cases in which the patient, suffering perhaps from a condition the painful or threatening character of which renders the performance of an operation of necessity, may request that some minor diseased condition, such, for instance, as an atheroma of the scalp, be corrected by the operator at the same time. Usually the minor affection receives attention after the more important operation has been completed, the operator not deeming the former to be of sufficient importance to require a simultaneous operation, and reserving the judgment as to the propriety of continuing the work or otherwise, according to the patient's condition at the close of the first.

In this class may also be included operations upon the cervix uteri and perineum in which the effects of the injuries for which the operations are required are separate and distinct. For instance, the perineorrhaphy may be demanded by failure on the part of the patient to retain the contents of the rectum as a result of involvement of the anal sphincters in the laceration, while trachelorrhaphy may be indicated by the presence of an eroded condition of the cervical tear, and cervical and corporeal hyperplasia, etc.

Supplementary Operations.—These may be defined as operative procedures which are employed to fill out or complete a typical operation already designed or carried out in order to more completely fulfil the purposes of the original operation, as, for instance, when the pectoral muscles and subclavicular and axillary lymphatic glands are removed as a precautionary measure in addition to typical amputation of the breast for carcinoma; or that which is added to an operation for the purpose of supplying a defect caused by, or to repair an accidental injury occurring in the course of the original operation. As familiar instances of the last two may be mentioned the addition of skin-grafting to an operation for the removal of an extensive but superficial epithelial carcinoma; and enterorrhaphy to repair an accidentally inflicted injury to the intestine in the course of an abdominal section.

In addition to these there is a class of cases in which several operative procedures of an entirely different character are designed to effect the same object and are employed with the design or expectation that one will be supplementary or complementary to the other. Most conspicuous in this class are those cases in which, as the result of accidents occurring during parturition, a condition of affairs confronts the surgeon in which various pathological states are in existence at the same time, all of which are traceable to the same primary cause. Here, however carefully each individual operation may be planned, failure to achieve the principal object in view may ensue because the operator stopped short of a supplemental procedure which was not thought necessary at the time, or which was postponed for future performance.

Further, certain precautionary operations are to be employed under conditions requiring the same, the necessity for their performance arising in connection with an already planned and executed operation. Instances of these may be cited in the necessity for entero-fixation following the successful release of a volvulus, and the removal of the vermiform appendix, the right tube and ovary having been removed, in order to guard against the occurrence of vicious adhesions between this organ and the stump of the latter.

Finally, in the course of an operation it may happen that the indications for simultaneous, coincident, and supplementary procedures are developed as the operation progresses. Here the rapid judgment of the surgeon must be called into play, for to hesitate long under these circumstances to discuss the matter pro and con is to permit the most important of all advantages, that of time, to be lost. In case the supplementary procedure is made necessary by the accidental infliction of an injury, particularly if the part injured be any portion of the intestinal canal, there can be no question as to the course to be pursued. The part must be repaired at once, even if the time occupied in accomplishing this involves abandoning of the originally planned operation. Next in importance is to be considered the dealing with conditions more or less likely to lead to serious complications in the future, such as the closing of accidental rents in the omentum, the covering of raw surfaces intra-peritoneally located, by means of adjoining and healthy serosa, etc.

Instances might be cited almost *ad infinitum* of conditions which either require a multiplicity of operations at one sitting, or in which these may be added with advantage. The following case, the record of which is taken from the report of my service at the Methodist Episcopal Hospital, is offered in illustration of a class coming under the surgeon's care in which multiple operative procedures are rather frequently required:

Laceration of Perineum and Cervix Uteri—Cystocele—Rectocele—Chronic Metritis and Endometritis—Procedentia Uteri—Hypertrophic Elongation of Cervix—Cystic Degeneration of Ovaries.—Hospital No. 4,592.

service No. 1,609. Clara P——, aged thirty-five, married. Admitted January 5, 1893. This patient was married two years prior to her present admission to the hospital, and nine months thereafter, without any apparent untoward occurrences in the course of her pregnancy, she gave birth to a seven-months' child. She is a Swede, and speaks but very little English. This, together with the fact that she is not a very intelligent person at best, renders it exceedingly difficult to obtain a clear account as to her menstrual and other history prior to her marriage, or the events which followed her first delivery.

Three months ago she entered the hospital for confinement with her second child. She was cared for in the Medical Division. At this time there was found protruding from the vulva a large, red, œdematous, and eroded mass, which upon examination proved to be the cervix of the pregnant uterus, with bilateral laceration. The entire perineal body was absent, as a result of an extensive rupture of this portion of the floor of the pelvis during her first labor. The mass was replaced within the vagina and retained by a compress and T-binder, the patient maintaining the dorsal decubitus for one month (until delivery), the œdematous cervix becoming reduced to one-half of its original size by this treatment. Her labor was a long and tedious one, the head refusing to engage in the superior strait, and was finally terminated by a high forceps operation. The patient made a good recovery, and six weeks afterward was admitted to the surgical service for operative treatment.

Examination at this time revealed the following: The patient is thin and spare, but otherwise in good general condition. There is found protruding from the vulva a greatly elongated cervix with bilateral laceration, and a portion of the body of the uterus as well. There is no trace of a perineal body. Upon lifting the mass from the posterior vaginal wall the latter, greatly thinned, bulges forward in the shape of a large rectocele. The anterior vaginal wall is dragged forward and downward, and a portion of the bladder wall as well as the entire length of the urethra, is prolapsed. The uterine cavity measures three and a half inches, including the hypertrophic elongation of the cervix. The endometrium gives a soft and velvety sensation when explored with the sound, and the withdrawal of the latter is followed by slight hemorrhage. Both urination and defecation are accompanied with great distress.

Operation.—Ether. Patient in lithotomy position.

1. *Curettage.*—The cervical canal was thoroughly dilated and the diseased and softened endometrium curetted away. This bled freely until the entire surface had been gone over, after which irrigation with borosalicylic solution and tamponing with iodoform gauze served to arrest the hemorrhage.

2. *Amputation of the Cervix Uteri.*—The posterior lip was seized with double tenaculum forceps and a transverse incision made upon the mucous membrane surface close to the bottom or angles of the bilateral laceration. This incision took an upward and backward direction, its depth terminating about half-way through the thickness of the lip. A second incision was made upon the vaginal surface of the posterior lip, the latter being elevated by the double tenaculum forceps for that purpose. This incision was carried into the depths of the lip in an upward and forward direction until it joined the first incision, thus removing a wedge-shaped segment of the posterior lip, with its apex above and its base below. A silk suture was passed through both flaps at the site of the intended cervical canal and utilized for depressing the posterior lip, while the same procedure was carried out upon the anterior lip.

3. *Trachelorrhaphy.*—The cervix being steadied by means of the temporary sutures passed through the lips of the cervix, the commissures of the laceration, which were filled with a hard fibrous mass of cicatrix, were cleared by removing therefrom conical segments with their apices divided upward. The mucous membrane flap of each lip was then trimmed away so as to leave a proper width for the cervical canal, and the parts drawn together with chromocized catgut sutures. These were passed in such a manner as to close the deep angles from which the cicatricial masses were removed at the commissures of the laceration, and at the same time approximate the raw surfaces of the flaps left by the removal of the wedge-shaped pieces from the anterior and posterior lips. This being accomplished the temporary silk sutures were withdrawn.

4. *Anterior Elytrorrhaphy.* — A triangular-shaped flap was marked out upon the anterior vaginal wall, its apex downward, its base upward. The incision marking the outline of this flap was carried through the mucous membrane of the vagina only. The portion of the vagina included within the limits of this incision were then grasped by means of a strong curved fixation forceps, and the entire flap removed by snipping with the points of scissors from the edges toward the centre. The resulting denuded surface was then sutured by a running catgut chromocized suture, the apex of the triangle being first closed, and then the angles of the base each in turn, the resulting suture lines uniting so as to form a Y.

5. *Colpo-perineoplasty by Flap-splitting.*—A semicircular incision was made with sharp-pointed curved scissors, following the line of the posterior commissure of the vulva at the point of juncture of the mucous membrane of the vagina and the skin covering of the perineum. The mucous membrane of the posterior vaginal wall was separated from the submucous connective tissue by the scalpel for a short distance, and then rapidly separated from the wall of the rectum by means of blunt scissors, this being facilitated by occasional snips where the connective tissue was dense; the greater portion of this separation was effected bluntly, however. The separation was carried in an upward and posterior direction to a point beyond the original limits of the perineal body, and laterally so as to thoroughly expose the retracted remains of its muscular structures. The vaginal flap was now grasped at its middle and held out of the way, while the resulting gap was closed in the following manner: A strand of silkworm-gut was armed at each end with a large strongly curved Hagedorn needle. The remains of the perineal body, not including the skin, were then transfixed on either side and the first loop of the suture made to approximate these. The needles were then reversed as regards position, that which passed through the right side being carried to the left, and *vice versa*, and passed through the skin. This constitutes the application of the crossed suture to perineorrhaphy. The entire gap was closed in this manner, the ends of the silkworm-gut being tied over so as to approximate the skin edges, the loop first passed bringing together the deeper parts.[1] The stitches were passed in the following order: First, the one at the site of the centre of the retracted perineal muscles; second, the one below, and third, the one above the centre. Then the anal extremity of the gap was closed from below upward. The mucous membrane flap, which up to this time had been held upward and forward by a tenaculum in the hands of an assistant, was allowed to fall back, its raw edge was hemmed by a catgut suture, and the vagina was packed with zinc oxide gauze.

6. *Double Oöphoro-salpingectomy.*— Trendelenburg position. The abdomen was opened in the median line by a six-inch incision, the fundus uteri was identified, and each tube and ovary brought in turn to the abdominal opening, ligated close to the uterus by the Stafford knot, and excised. Just as the peritoneum

[1] I have since modified this method by pairing the crossed sutures and tying the paired ends over pieces of rather thick-walled drainage tubing, somewhat after the manner of the quill suture of the older surgeons.

was being divided in the median incision the patient; through an error on the part of the anæsthetizer, gave a convulsive cough, and a knuckle of intestine was forced between the blades of the scissors and injured. It was a matter of great importance that the damage thus inflicted should be repaired at once.

7. *Enterorrhaphy.*—The parts about the injured loop of intestine were immediately covered with sterilized compresses, my assistant, Dr. Delatour, at the same time grasping the loop above and below the point of injury, to prevent the escape of the contents of the intestine into the abdominal cavity. A fine cambric needle, armed with the finest iron-dyed aseptic silk, was employed, and typical Lembert suture of the serous covering of the intestine performed, by the running "over-and-over" stitch. A mixture of compound tincture of benzoin sterilized by mercuric chloride in the proportion of 1 to 1,000, and to which ten per cent. of iodoform had been added, was pencilled along the line of intestinal suture. The operation of double oöphorosalpingectomy was then proceeded with, as above detailed. As the right tube and ovary were cut away the vermiform appendix came into view. It was fully four and a half inches long, and contained three separate enteroliths. The direction of the organ was downward and inward, and in a position to form adhesions to the stump of the right tube, or become involved in any adhesive inflammation which might subsequently occur. It was therefore decided to remove the appendix.

8. *Appendicectomy.*—The organ was seized by its tip, brought out of the abdominal opening, and a double ligature of catgut passed through the meso-appendix at its base. One ligature was made to encircle the appendix after reflecting a cuff of the serosa of the same, the other the mesentery. These were tied separately, and the appendix and its mesentery amputated. The stump of the appendix was sterilized in its interior beyond the ligature by the thermo-cautery heated to a dull or cherry red; then, together with the stump of the mesentery, it was buried in a furrow of the cæcum made to receive it, and secured there by a continuous Lembert suture of fine silk. The sterilized mixture of iodoform and compound tincture of benzoin was applied along this suture line.

9. *Gastro-hysteropexy.*—This was decided upon when, after amputation of the cervix and the performance of the anterior elytrorrhaphy and the colpo-perineoplasty, it was found that without further support the uterus still came down to the vulvar orifice. It was with this in view that the abdomen was opened. The discovery of cystic degenerative disease of both ovaries at once determined the particular procedure to be adopted in accomplishing this. The stumps resulting from the excision of the tubes and ovaries were utilized for this purpose. These were placed with their raw surfaces applied to the parietal peritoneum, one to either side of the median abdominal wound, and there secured by four sutures of fine silk. Additional sutures were passed through the serous covering of the fundus of the uterus and the parietal peritoneum.

The abdominal wound was now closed by means of silkworm-gut crossed sutures, one of which was passed so as to include the peritoneum of the fundus at its anterior aspect, in order to secure adhesions at this point and thus prevent a gap in a locality where a knuckle of intestine could subsequently slip through and become strangulated. Dressings of heat-sterilized zinc oxide gauze were placed next to the abdominal wound; compresses of gauze wrung out of mercuric chloride solution, and a layer of sterilized non-absorbent cotton were next applied. These were secured in position by a snugly pinned abdominal binder.

The following note is taken from the operation-book at the hospital: Clara P——, January 13, 1894. Anæsthetic began, 2.43 P.M.; anæsthesia established, 2.58 P.M.; anæsthetic stopped, 4.15 P.M.; amount of ether used, eleven ounces.

No attempt was made to operate "against time." Counting the actual time of the operation as extending from the establishment of the anæsthetic to the stopping of the same, just seventy-seven minutes were consumed. The time occupied in bringing the patient from the anæsthetizing-room and arranging her upon the table may fairly be considered as balancing whatever was done for her after the anæsthetic was stopped.

This patient's recovery was final and complete. The healing of the abdominal wound was complicated by a stitch abscess; this gave rise to symptoms which disappeared upon complete evacuation, careful curetting, and the use of a fifteen-volume solution of the peroxide of hydrogen. She was not permitted to assume the erect position for eight weeks, in order to secure stability of the adhesions at the site of the hysteropexy, as well as solidity of the pelvic floor. Her stay in the hospital covered a period of eighty-one days; twenty-four days of this time, however, being occupied in keeping her under observation, and to permit her to regain her strength sufficiently to resume the duties of her household.

CLINICAL SYMPTOMS DUE TO CHRONIC PERIVESICAL INFLAMMATION.[1]

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PERIVESICAL inflammation, or, as it has been aptly called, pericystitis, has received some attention of late, chiefly, however, from a pathological and an etiological stand-point. Before coming to the main purpose of this paper it has seemed well to briefly review the literature, most of which has been directed toward the study of inflammations specially involving the space of Retzius. This space has become of much surgical importance owing to the frequency of the suprapubic operation. J. Englisch,[2] of Vienna, has presented a very complete article on idiopathic inflammation of the perivesical connective tissue in the space of Retzius. Guyon,[3] of Paris, one on fluids either inflammatory or extravasated in this space; and E. Martin,[4] of Geneva, one on cases of idiopathic suppuration in this part. P. Thorndike,[5] of Boston, and E. Martin,[6] of Philadelphia, also have each reported an instance or so of such inflammations. Noel Hallé,[7] of Paris, however, is the only one who has in a general way considered the subject of chronic perivesical inflammation. This author, in his article entitled Pericystitis, has excluded from his consideration acute phlegmonous inflammations of the space of Retzius, the special topic of the other writers just quoted. Hallé's article deals almost exclusively with the pathology of the subject. From this literature we are taught that occasionally the space of Retzius is invaded by inflammation, usually apparently idiopathic in character, though at times traumatic or due to some special agency. At first, when such inflammation is slight in extent, there are, as a rule, no subjective symptoms aside from febrile ones, except suprapubic tenderness. As the area of inflammation increases, however, it forces its way between the recti muscles, and then burrows beneath the fascia external to those muscles, generally in the direction of the umbilicus, though Martin, of Philadelphia, reports a case where it burrowed laterally and downward so as to simulate an inguinal hernia. When this burrowing is represented by a phlegmonous inflammation, then a hard boggy tumor appears in the suprapubic region. When, on the other hand, it is

[1] Read at New York Academy of Medicine, Section on Genito-urinary Surgery, March 12, 1895.

[2] Wiener med. Wochenschrift, October 17, 24, and 31, 1891.

[3] Gazette des Hôpitaux, Paris, November 24, 1891.

[4] Annal. des Mal. des Organes Genito-urinaires, January, 1893.

[5] Journal of Cutaneous and Genito-urinary Diseases, New York, September, 1893.

[6] Universal Medical Magazine, Philadelphia, March, 1894.

[7] Annal. des Mal. des Organes Genito-urinaires, November and December, 1892.

fluid, being either purulent or urinous, then a fluctuating tumor presents itself, which may, as Guyon has emphasized, be easily mistaken for an over-distended bladder. With this condition, however, there are associated no special vesical symptoms. Hallé shows that the perivesical tissues, in the same well-known manner as the perirenal tissues, can be and often are involved by chronic inflammation. The origin of the inflammatory agent in these cases may be vesical or from some near-by organ (*i.e.*, intestinal or genital). The character of the inflammation is sclerous, adiposclerous, or suppurative. When the bladder is the origin of the inflammation the process reaches the perivesical tissues by directly penetrating the bladder walls. Gonorrhœa, tubercle, neoplasms, germ infection, and traumatisms are causes for such vesical inflammations. Generally all the surrounding perivesical tissues are not involved by inflammation, the tissues in connection with the summit and base of the bladder only being invaded, though occasionally the surrounding inflammation may be general.

Hallé reached his conclusions from extensive post-mortem study, and, as in most instances where lesions of vesical origin were discovered, there had been no bladder symptoms complained of during life, he rightly concluded that these lesions generally gave rise to no subjective symptoms.

The object of this paper is to take up the clinical side of this question, heretofore but little discussed, and to show that there does exist a class of cases, rare to be sure, representative of this condition, in which the clinical symptoms are most marked. It is only those instances, however, in which the pathological process completely, or in great measure, involves the entire extent of the surrounding perivesical connective tissue that present clinical symptoms. In such cases the symptoms presented are due to the fact that the pathological lesions rob the bladder of its expansive quality and force it to remain in a state of permanent contraction. The denser the perivesical inflammation, the more contracted the bladder and the more rigid its walls, so that in extreme instances the vesical capacity is almost nil. When but a fraction of the area of the bladder walls is involved, then the portion left free to act undergoes a certain amount of compensatory hypertrophy of its muscular walls, thus enabling the bladder to exercise its expansive and contractive functions, and consequently no subjective symptoms result. The condition of localized perivesical inflammation always follows to a greater or less extent the operation of suprapubic cystotomy, the anterior superior portion of the bladder wall being bound to the parietal abdominal structures, and yet this condition, being circumscribed, in no way interferes with the vesical function.

In the majority of these cases presenting subjective symptoms the surgeon is liable to find a history of severe gonorrhœal cystitis, occurring perhaps years previously in a subject lymphatic, or with tubercular tendencies; or less commonly there may have been no gonorrhœal element in the cystitis, it having been tubercular, infective, or traumatic. In some cases there may be no inflammatory vesical history, as in those in which the pericystitis is caused by a neoplasm, or—and this is very rare—in those in which the inflammatory focus is independent of the bladder, being connected with some near-by organ. The urine voided may be purulent and loaded with inflammatory elements such as one would expect to find associated with chronic cystitis, or it may be clear and free from such elements. This latter condition of the urine may be found in those cases in which a previous cystitis has ended in resolution as far as the vesical mucous membrane and the submucous tissues are concerned, and in those cases in which there has never been inflammation of the vesical mucous membrane.

Symptoms in connection with urination are constant and most marked. In all cases there is an inability to hold the urine at all times for more than a short period, the quantity voided at a given instance being small, thus corresponding with the capacity of the bladder. In cases where the lesions are severe the capacity of the bladder may be so small as to allow of no accumulation of urine, vesical incontinence resulting.

There is ordinarily little pain associated with such frequent urinary acts, and oftentimes it is entirely absent in case no cystitis is present. There is no marked urgency preceding the act nor tenesmus after it. If an individual so affected is called upon to explain the sensations which he experiences forcing him to urinate, he is apt to state that there is a marked absence of the normal sensations, the urine generally coming away with little warning. In the milder grades of cases, where the urinary act is simply frequent, active exercise tends to increase the frequency, so that at such times incontinence may result, requiring the wearing of a urinal. Pain in the suprapubic region, in the lower back, and in the perineal region, may be complained of. Such pain is generally described as dull in character and intensified by long standing or much physical exertion. Of course, in cases where cystitis coexists, the pains incident to that affection are also present.

If now the attempt is made to pass a catheter, the instrument, in case there is no organic stricture, will pass perfectly easily into the bladder, encountering but little spasmodic resistance in the membranous urethra and without causing the patient any special disagreeable sensations. A very small amount of urine, perhaps only a few drops, will flow from the catheter after it has entered the bladder. If then an attempt be made to inject the bladder through the catheter it will be found impossible to do so more than to a very moderate degree. If forced attempts be made to inject fluid the result will be a prompt and strong return flow of the fluid, generally along the urethra outside the catheter, thus tending in a marked manner to force out the instrument. This return flow of fluid is, however, associated with little or no sensations of vesical tenesmus. If we consider a moment we see how much this simple procedure with the catheter teaches. In the first place it shows that the frequency of urination is not caused by an inflamed or neurotic vesical neck, otherwise much tenderness and spasmodic resistance would have been revealed by the passage through the membraneous urethra of the instrument. In the second place, that the frequency or incontinence is not due to paralysis more or less complete, in which case little or no resistance would have been offered on attempting vesical distention. In the third place, that the urinary symptoms are not due to vesical distention and overflow, since the catheter found the bladder empty. It might be said with reason that a general neurotic or hysterical condition could stimulate these conditions found by the catheter, and so they could. In fact, the only way to rule out these latter conditions from the diagnosis is to administer enough of an anæsthetic to occasion muscular relaxation; then if the case is hysterical or neurotic the bladder can be distended with fluid to its normal capacity without offering any resistance. If, however, the case is one of chronic perivesical inflammation, then the resistance offered to the injection of fluid persists, being affected little, if at all, by the administration of the anæsthetic.

In investigating these cases resort should be had to the rectal feel and to bi-manual palpation between the rectum and hypogàstrium. The result derived from these procedures may be negative or it may reveal more or less abnormal resistance and induration in connection with the tissues composing the vesical region. Nothing in the way of positive evidence, however, can, as a rule, be derived from these manipulations.

Cases representative of this disease cannot be cured. Those of them, however, originating from a cystitis

can in some instances be more or less benefited by prolonged and persistent treatment. If the patient is more or less strumous or tubercular, hygienic methods, combined with cod-liver oil, hypophosphites, etc., help. For local treatment, bladder gymnastics so-called (Daggett,[1] of Buffalo, has written on this form of treatment) seem to be of some benefit, though the good derived thereby is generally but temporary. This form of treatment consists in the regular stretching of the bladder walls by the injection into it under regulated pressure of a warm antiseptic fluid.

The following cases which have come under my observation will be cited as illustrative instances :

CASE I.—A man, aged thirty, first came under observation six years ago. At that time he was suffering from frequent urgent and painful urination. His trouble had originated in a gonorrhœa, which had extended to the bladder. Shortly before being seen he had been confined to his bed a month owing to the vesical inflammation. There had been at that time much suprapubic pain, some of which still persisted. His urine was loaded with pus, foul smelling, ammoniacal, and occasionally somewhat bloody. There was no stricture. He had no marked tubercular element in his history, although he had never been very strong and had some strumous evidences. At that time Dr. Keyes performed perineal section in order to establish vesical rest and drainage. After the section had been made the finger was introduced into the bladder. The vesical walls were found to be lined in numerous places with areas of granulations marking the site of previous active ulcerations. In a number of places phosphatic crusts were found adhering to the granulations. The interior of the bladder was then thoroughly curetted and a large perineal drainage-tube inserted. The patient soon became very comfortable with his tube in, and the urine passing through it became sweet and but slightly purulent. After a time the tube was removed, the character of the urine continued to improve and after a time it became clear and normal. The urination was no longer painful, still it continued almost as frequent as before the operation. The patient gained flesh and strength. After a hard day's work, however, a little suprapubic pain would always return, together with some increase in the frequency of urination. Now after six years the patient still remains in this same condition of frequent urination. His bladder can be but moderately distended and the catheter shows the symptoms which have just been described, indicative of pericystitis, to exist. He has tried vesical distention at regular intervals, vesical gymnastics so-called. This treatment has been followed by improvement, which, however, has been found to be but temporary, the original contracted state of the bladder returning as before shortly after its cessation.

CASE II.—A man, twenty-eight years of age, was first seen two years ago by Dr. Keyes, complaining of urgent urination every one and one-half to two hours night and day. All this followed a gonorrhœa, which he had contracted six or eight months previously. There was much pus in the urine, and much vesical epithelia. No stricture. Various forms of local treatment had been tried without avail. Rectal examination and bi-manual palpation showed considerable induration of the pelvic tissues. Perineal section was performed to cure the cystitis by establishing drainage. This was successful, as after convalescence from the operation the urine became perfectly clear. The perineal wound, however, healed slowly, a slight fistula persisting. The patient became strong and gained twenty pounds in weight over that at the time of the operation. All localized painful sensations disappeared. The frequency of urination, however, gradually increased until incontinence and dribbling resulted, the bladder remaining in a state of permanent contraction. Now the patient goes about, leading an active life, wearing a urinal. The reason that the urinations gradually became more frequent after the cure of the cystitis is probably because the perivesical inflammation has gradually become more organized and fibrous as time goes on, thus leading to a firmer contraction of the bladder.

CASE III.—An elderly man, sixty-five years of age, had always led an active life. No venereal history. For about a year off and on he had had severe attacks of pain in the pelvic region and had noticed that his acts of urination were gradually becoming more and more frequent day and night, though as a rule the attacks of pain which he had experienced seemed to have no special connection with the urination, except that after an active day's work he was more apt to have the attacks of pain and the frequency of urination was somewhat increased. He had been told that his trouble was due to an over-distended bladder, and a catheter had been passed a few weeks before the patient came under my observation. The report was, however, that when the catheter entered the bladder only a few drops of urine had been drawn off. Since that time pus had appeared in the urine together with occasionally blood, and the acts of urination had become very painful. All this was due, apparently, to the fact that the bladder had become infected by the catheter. When first seen by me, the patient's general condition was bad. Chloroform was given, and the bladder examined. It was found to be rigidly contracted, allowing of no expansion. The patient died about one week afterward, having been rendered in the meantime partially comfortable by the administration of opiates. A post-mortem examination showed the bladder to be involved by a cancer, which had apparently originated in the mucous membrane of the upper portion and had gradually extended over the whole viscus, associated with a marked amount of perivesical involvement. Back of the trigonum, the portion last involved, there was a vesical sacculus, made up of a hernial protuberance of the mucous membrane between the vesical muscular fibres. This portion of the bladder-wall evidently was the last to lose its vesical function of expansion and contraction. The sacculus had probably formed late in the progress of the disease as the result of vesical tenesmus, after the bladder had mostly ceased to functionate.

[1] Buffalo Medical and Surgical Journal, July, 1894.

THE ETIOLOGY OF CHOREA.

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THE etiological factors of chorea, as usually given by authors, may be divided into three classes : toxic, reflex, and psychological ; but in an article upon this subject, published in the *American Journal of the Medical Sciences* for January, 1894, Professor Dana, of New York, defines chorea as a disease "primarily of the blood-vessels and blood, with secondary degeneration in the parenchymata due to some microbe or toxic substance or both." "The anatomical seat varies, but it is chiefly in the cortical or subcortical motor centres." Thus limiting the etiology to the toxic, and excluding all reflex and psychological causes.

As to the seat of the lesion and the changes found in some cases, there can be no question, but in the belief that they are always due to a toxic cause I cannot help feeling that Dr. Dana has taken too narrow a view of this subject.

That the toxic causes are the active factors in a large proportion of the cases cannot be for a moment denied. We have only to remember the pathology of malaria and rheumatism, and their etiological relationship to chorea, to admit its truth ; but a similar condition of vascular dilatation and parenchymatous degeneration would also follow, and has long been ascribed to abnormal activity of the cerebral cells, as the result of

long-continued irritation of some peripheral portion of the nervous system (reflex irritation), or to abnormal mental processes.

We know, although we are as yet unable to demonstrate by our present microscopical methods, that each discharge of force by a nerve-cell is accompanied by a change either in its chemical or molecular structure, and, if such discharges are too violent or too prolonged, parenchymatous degeneration occurs. This increased cell activity would also cause an increased vascularity of the parts. The effect of such long-continued peripheral irritation in producing chorea, as Gowers says, "cannot be denied;" and in an article on this subject in the MEDICAL RECORD for May 5, 1894, Dr. Ranney sums up this subject as follows: "That many cases of chronic chorea get well, and remain well, without the use of drugs, whenever the sources of pheripheral reflex irritation are removed." He then gives the histories of ten cases with ocular troubles as cured by their correction; but it is not to the reflex but to the third class, the psychological, that I wish to call attention.

The psychological causes of true chorea are always some marked and acute affect, which gives rise to that violent and inco-ordinate activity of the cells of the cerebral cortex which constitutes an emotion. The emotions which thus give rise to chorea are, as far as I have been able to ascertain, of a painful and depressing character. Of these fright is by far the most common.

To comprehend how an emotion can produce such a disease as chorea, it is necessary to briefly review a few facts concerning the anatomy and physiology of the cerebral cortex. Concepts are due to the association of the different cells which receive the impressions which constitute them; and trains of thought to the further associations of such groups unto larger ones, the stimulation of anyone of which calls the rest into activity; and, when such impressions are so marked as to force themselves upon our attention, and thus destroy our conscious selection of concepts—for but one train of thought can occupy the mind at a time—they constitute an affect.

The effect, then, of the affect which give rise to the emotion of fright, is to throw the sensory cells of the cerebrum into such violent action as to break up the regular lines of thought, rendering the conscious selections of concepts impossible, and all mental action is in this way for a time suspended. The disturbance of the sensory cells of the cerebral cortex also shows itself in the disturbance of their inhibitory power over the cells of the motor areas. In the milder grades this is not much disturbed; but, as the mind cannot originate voluntary movements, no motor discharges are sent out, and the patient stands like a statue.

If the emotional disturbance is more severe, it shows itself in an increase in the inhibitory influence which the cortical motor cells possess over the spinal; and the normal rhythmical discharges by which the latter keep up the muscular tone of the body are diminished, and general muscular relaxation takes place.

If the disturbance is still more severe, the inhibitory power of the cortical sensory cells over the motor may be destroyed and the latter allowed to discharge themselves, producing convulsive movements. This state of violent action on the part of the cells of the cortex is rapidly followed by the opposite one of exhaustion. Mental action is therefore weak and confused, and the weakening of the inhibitory control of the cerebral over the spinal motor centres shows itself by an increase in the rhythmical discharge, producing a general muscular tremor. This increase and subsequent weakening of the inhibitory influence of the cerebral cortex, also shows itself in the disturbance of other systems than the muscular.

The heart's action is at first retarded, and may even be arrested, and then rapid and often violent. Respiration is at first arrested, and then rapid and labored. Digestion is arrested, and the bowels thrown into a state of increased peristalsis. The urine is increased in amount. The disturbance of the vaso-motor system is shown by the pallor and increased perspiration. Such violent action on the part of the cells of the nervous centres may, as I have said, be followed by degenerative changes, and according to the nature and distribution of such changes we have a neurasthenia, epilepsy, hysteria, insanity, paralysis agitans, or chorea resulting.

The difference in the character of the disease produced is to be explained by the differences in the development of the nervous systems, by the inherited or acquired weaknesses, and by the character, intensity, and duration of the cause.

True chorea is a disease of late childhood or early adult life—a period in which the nerve-centres have been developed, but in which the normal exercise of function has not yet developed that controlling and co-ordinating influence of the mind by which we recognize the relative importance of the various concepts.

The normal irritability of the nerve-cells, as of the other cells of the body, gradually diminishes with age, and is greater in the female than in the male. It naturally follows, from such a condition as this, that the violent cell-action found in emotions is more easily excited at this age, while the want of exercise of the inhibitory functions over the lower centres and the greater irritability of the latter render them more liable to disturbance of their functions.

Muscular movements are the normal means by which we express our emotions, and are therefore most marked in those in whom, by want of development of judgment and reason, they are the least modified and controlled, as in animals, the lower classes, and in children. The normal muscular movements produced by emotions also bear a strong resemblance to those of chorea.

That chorea is a disease of cerebral origin is now so generally admitted that it seems hardly necessary to state the following facts, upon which the theory rests: That the movements cease during sleep, while they would be exaggerated, if of spinal origin, when the inhibitory cerebral influence is in abeyance. By the unilateral character of the disease, spinal disorders producing bilateral disorders. By the greater involvement of the arm, it being more habitually under the direct control of the mind than the leg.

Chorea may then be considered as primarily a disease of the cerebral cortex, involving most markedly the superficial layers, and manifesting itself by the loss of control which the second or sensory layers possess over the deep motor layers.

When the motor cells are not damaged, the movements produced will, through the normal association either inherited or acquired of these cells, take the form of purposeful movements from the stimulation of groups of associated muscles. When, however, the lesion extends to the motor cells, and by an unequal amount of damage breaks up this grouping of motor cells into associated groups, then we will have irregular contractions of individual or parts of muscles. As is well known, in organic disease of the brain the cells of the lower centres, from want of proper control over their nutrition—as in the motor ones, by allowing them to discharge themselves too frequently, from destruction of the inhibitory power or from over-stimulation, exhaustion is produced—may undergo secondary degeneration, and, as the result, we will no longer have the movements controlled by voluntary effort and continuing during sleep.

In support of this psychological theory of the causation of this disease, I offer the histories of the following cases:

CASE I.—E. D——, male, aged eighteen; United States; admitted to the Kings County Hospital April 3, 1894. He has acted queerly since childhood. Would frequently leave home for several weeks. In July, 1893, he received a severe fright from being

thrown from the seat of a truck. This was followed by a general muscular tremor which lasted some days, when a mild attack of his present trouble developed. He was arrested two days before admittance, and in court the next day it was noticed that he was extremely nervous, and in the next twenty-four hours he developed the present condition. There are extremely violent, irregular clonic spasms of the muscles of the limbs, trunk, neck, face, and tongue, causing the patient to throw himself violently about, and rendering restraint necessary to prevent injury to himself and others. Contractions are partially controlled for a moment by voluntary effort. Mind seems clear, but it is very difficult for him to communicate with others. He died of exhaustion at the end of three days.

CASE II.—C. M——, aged thirteen, female; United States. Seen at the Central Dispensary April 6, 1893. Badly frightened by a dog one month ago. This was followed by twitching of the facial muscles, which extended to the left arm and leg. Frontal headache. There are marked irregular clonic spasms of the muscles of the affected limbs, with loss of power and inco-ordination. The spasms interfere with voluntary movements and cease during sleep.

CASE III.—S. S——, male, aged thirteen; United States. Seen at the Central Dispensary May 23, 1893. Received a severe whipping three weeks ago, after which he gradually developed marked irregular clonic spasms of all the muscles of the body, limbs, neck, face, and tongue. There is also marked loss of power and inco-ordination, with fibrillary tremors. Movements much diminished during sleep.

CASE IV.—M. L——, female, aged thirteen; United States. Seen at the Central Dispensary September 16, 1893. Frightened three weeks ago by a horse. Since then has had choreic movements of the left arm. There are fibrillary contractions of these muscles, with some loss of power and inco-ordination.

CASE V.—A. O'C——, female, aged eight; United States. Seen at the Central Dispensary November 23, 1893. Neurotic family history. Always nervous and anæmic. Frightened by an epileptic four months ago. Since then has had constant frontal headache, with twitchings of right arm and leg, causing her to drop objects and stumble. No movements during sleep. There are slight, irregular, partial muscular contractions in limbs named, with loss of power and inco-ordination.

CASE VI.—P. E——, male, aged nine; United States. Seen at the Central Dispensary May 5, 1894. Neurotic family history. Sister has hysterical hemiplegia. Badly frightened three weeks ago. A few days after which he began to have violent clonic, irregular spasms of the facial muscles; these have gradually extended to the neck, body, limbs, tongue, and probably the larynx. The contractions keep the whole body and limbs in irregular and violent motion. Movements much diminished during sleep.

CASE VII.—J. R——, male, aged six; United States. Seen at the Central Dispensary June 2, 1894. Thrown from a horse three days ago. Since then there have been irregular contractions of the limbs, body, neck, and face, with some loss of power and inco-ordination. Movements cease during sleep.

CASE VIII.—W. B——, male, aged fourteen; United States. Seen at the Central Dispensary June 23, 1894. Frightened by falling downstairs six weeks ago, which was followed by a marked general tremor, and at the end of five days he developed irregular muscular contractions in the right arm. Stumbles in walking and drops things. There is also well-marked inco-ordination in the right arm and leg.

CASE IX.—A. W——, male, aged fourteen; United States. Seen in private practice March 10, 1894. Mother and sisters hysterical. Insanity in the father's family, and father very eccentric. The boy is bright, precocious, and easily exhausted. Bodily development very poor. Much depressed one month ago by failure to pass his examinations at school. He then developed intense restlessness and insomnia. This was followed by irregular contractions of the muscles in the right arm and leg. There are also fibrillary contractions in these muscles, with loss of power and inco-ordination. Contractions interfere with voluntary movements and cease during sleep.

CASE X.—M. F——, female, aged fourteen; United States. Seen at the Central Dispensary July 10, 1894. Health always good up to two months ago, when she received a severe whipping, which was followed in a few days by twitching of the muscles of the face and right arm and leg. The spasms interfere with voluntary movements, causing her to drop things and stumble. They cease during sleep. There is some loss of power and inco-ordination on the right side.

CASE XI.—M. F——, female, aged eleven; United States. Seen at the Central Dispensary July 17, 1894. Previous health good up to three months ago, when she fell down the cellar stairs. This was followed in a few days by twitching of the muscles of the face, right arm, and leg, causing her to stumble and drop things. Movements interfere with voluntary motions and cease during sleep. They consist of irregular clonic spasms of individual or groups of muscles, associated with fibrillary tremors, loss of power, and inco-ordination.

CASE XII.—M. T——, aged nine; United States. Seen at the Central Dispensary August 4, 1894. Her brother had the same trouble. Her chorea followed within a few hours a whipping received at school about three years ago.

There are irregular spasmodic contractions of the muscles of the face, right arm, and leg. Drops objects and stumbles in walking. There is inco-ordination and increased reflexes on the right side. Movements continue, but are less marked, during sleep.

CASE XIII.—M. B——, female, aged forty-six; English; widow. Admitted to the Kings County Hospital on August 25, 1894. Family and personal history negative. Two and a half years ago she fell through a window, breaking her clavicle and lacerating her scalp. Present trouble was noticed soon after her recovery, and has been growing gradually worse. At the present time there are violent clonic spasms of the muscles of the face and limbs, keeping the parts in constant irregular motion. Movements continue, but are less marked, during sleep.

CASE XIV.—A. H——, female, aged fifteen; United States. Seen in Dr. C. F. Barber's clinic at the Eye and Ear Hospital, on September 28, 1894. She fell through a skylight two and a half years ago, landing on her feet. She was not injured, but much frightened. This was followed for some hours by a general tremor, most marked in the lower extremities. This was followed by more rhythmical clonic spasms, commencing in the feet and gradually involving the face and arms. There is also some inco-ordination, loss of power, and fibrillary contractions. Movements continue, but are less marked, during sleep.

CASE XV.—F. P——, male, aged ten; United States. Seen at the Central Dispensary October 18, 1894. Badly frightened, four months ago, by being told as a joke one night that there were burglars in the house. Next day began to twitch in left arm, and rapidly developed his present condition. There are irregular, violent, clonic spasms of the muscles of limbs, body, neck, face, and tongue, associated with fibrillary tremor; also marked loss of power in muscles of left arm and leg. Movements cease at night.

We have here, then, the histories of fifteen cases of chorea in which the disease followed a condition of violent mental disturbance, and in fourteen of these fright was the exciting cause. Thirteen of the cases had enjoyed good health up to the time of the commencement of the disease, and in four only was there any previous personal or family neurotic history.

In eight cases the choreic movements seemed to have been almost continuous with the tremor due to the fright, while in the other five cases it occurred within from one to three days.

Of course it might be claimed that the bacteriological infection had already taken place in these cases, and that the emotion was only the exciting and not the real cause; but in such a condition we ought to have the disease following any emotional disturbance, instead of one whose expressive movement it so closely resembles, and one would naturally look, in the majority of the cases, for some preceding evidences of ill-health.

330 Lafayette Avenue.

A NEW TREATMENT OF SEMINAL WEAKNESS, WITH ESPECIAL REFERENCE TO SEXUAL NEURASTHENIA.

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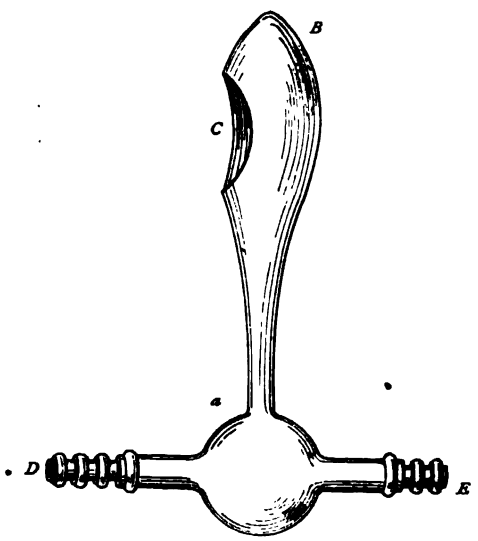
The success in the treatment of a number of cases of sexual neurasthenia with a therapeutic measure so simple and easy of application, both in my own practice and that of Dr. B. Sachs, has prompted me to make known my experiences in the same. I do not mean to imply by this article that I am making use of an entirely new method of treatment, but the application of this particular instrument, for this affection, in a manner which I will describe below, is at present entirely new.

It is found most applicable in cases of sexual neurasthenia attended with atonic impotence—patients in whom we find the prostatic portion of the urethra extremely hyperæsthetic; who complain of frequent seminal emissions, with more or less exhaustion; in whom the ejaculations are premature, and in whom the erections are imperfect and of short duration, so that intromission is sometimes impossible. In some the sexual desire is very much diminished, in others it is absent. Together with these local symptoms the patient complains of a number of neurasthenic symptoms, which, together with the former, help to make the patient a confirmed neurasthenic.

The accompanying cut is a very good representation of the instrument that I employ. It is similar to "Arzberger's" cooling apparatus, which is employed abroad in the treatment of hemorrhoids. The close proximity in which this can be applied to the prostatic portion of the urethra is what led me to make use of it for this purpose.



The instrument consists of a simple metallic cold-water coil, constructed in the shape of the letter T. The stem of the instrument (*a*) is narrower at the base than at the extremity, and is about one and one-half centimetres in thickness at its widest part, and one centimetre at the narrowest portion. It is bulbous at the extremity of the stem (*B*), and contains a slight concavity (*C*), just below the head of the instrument. Thus it easily adapts itself to the rectum, the concavity fitting itself very nicely to the prostatic portion of the urethra.[1] In regard to the application, the *modus operandi* is as follows: To the end (*D*) I attach a piece of rubber tubing five feet or less in length; I connect this with a rubber bag suspended immediately above the patient, who is most conveniently placed in the recumbent position with his back to the operator. To the other end I attach a piece of tubing long enough to extend from the couch on which the patient is reclining to a vessel on the floor. I now fill the bag with ice-water, and also put into it a piece of ice to keep the water at the same cold temperature. The instrument is then introduced into the rectum, well oiled, with the concavity toward the scrotum. The water, which has previously been held in check by a clamp arrangement on the rubber tubing, is now allowed to flow slowly through the apparatus, and into the pail on the floor.[2] Instead of renewing the water each time afresh, you can make use of that which flows into the pail on the floor, by merely pouring the same back into the rubber bag, and thus you will retain about an even temperature throughout the sitting. The application should last about ten to fifteen minutes, and should be repeated daily. The patient soon becomes accustomed to the use of the instrument, and learns very rapidly to apply it alone.

In order to demonstrate the usefulness and success obtained with this method of treatment, I append the histories of some typical cases.

Case I.—M. J——, aged twenty-four; married three years; occupation, grocer. Denies ever having had any venereal trouble. Admits that he was at one time addicted to masturbation. He never experienced any evil effects therefrom; but two and a half years after his marriage he noticed that although he still retained his sexual desires, he was no longer able to control his erections. Besides this he was suffering from five to six seminal emissions weekly. These left him in a very much exhausted condition, so that he was hardly able to attend to his business properly. A perfect erection of the penis was with him an utter impossibility. This condition, together with a slight catarrhal gastritis, combined to make this patient a very miserable man. In connection with the above he suffered from a variety of neurasthenic symptoms. An examination of the penis revealed a state of affairs that one most frequently finds in this class of cases. On passing a steel sound, No. 23 French, I encountered, about two and a half inches from the external meatus, an obstruction, which after a little patience in manipulation was easily overcome, and thus proved to be nothing else but a simple spasmodic stricture. As I entered the prostatic portion of the urethra the parts were so sensitive that the patient was unable to endure the pain of any further passage of the instrument, and I was compelled to desist from any further exploration that day. I sent the patient home, having prescribed for him a solution of the bromide of potash, containing twenty grains to the teaspoonful. This was to be taken one teaspoonful thrice daily, and he was to return to me in three days. I then examined his urethra with much better success, in that I was able to introduce the sound into the bladder. Nevertheless, I found the prostatic portion of the urethra extremely sensitive and hyperæsthetic. At first I advised the continuance of the potassium bromide. I suggested also the passage of the sound and psychro-

[1] Instrument and attachments can be obtained from O. Kalish's surgical and orthopedic department, 102 East Twenty-third Street, New York City, or can be made by any good surgical company.

[2] This is accomplished by means of a lead weight attached to the end of the tubing, and so constituted that it will allow the water to flow at any rapidity desired, while at the same time it prevents the tube from leaving the pail.

phore. These were to be passed alternately every third day during the first week, and every day during the second and third weeks. All sexual intercourse was interdicted; no stimulating drinks were allowed; and the patient was put upon a diet consisting of plain and easily digested food. At the end of three weeks a second examination was made, and the result was so discouraging that the patient would no longer submit to this method of treatment. I discontinued the use of the sound, psychrophore, and potassium bromide, and substituted instead the cold water through the rectum (rectal psychrophore). The result was astonishing. At the end of the first week improvement had already begun to set in. At the end of the fourth week I could pass a sound without any difficulty. The emissions had ceased entirely. I continued this treatment for two weeks longer, and advised the patient that if he continued to be more regular and temperate in his sexual relations hereafter, he need have no fear of a return of his former trouble.

Thus after six weeks of treatment with the rectal psychrophore, I discharged this patient as cured. It is now three years ago since I treated this man, and he tells me on inquiry that he never had a return of his old trouble, and that his genital organs are in perfect condition.

Case II.—A. C——, aged twenty-nine; unmarried; occupation, commission merchant. Had led, up to the time that I first saw him, a very dissipated life. He was having seminal emissions nightly. He was utterly unable to control an erection. His penis was cold and flabby. On attempting coition his ejaculation was premature. No pleasure was derived from the ejaculation. Patient suffered likewise from a number of cerebrosthenic and neurasthenic symptoms. Examination of the penis revealed a condition similar to case No. I., with the exception that there was present in this patient an organic stricture. He was submitted for operation, and the stricture was cured; but as his other trouble still continued, I advised the treatment with the rectal psychrophore, together with the same strict hygienic course of treatment as in Case I. This was strictly followed out and the result was a good one. The course of treatment in this case extended over a period of eight weeks, and sexual intercourse was interdicted for six weeks longer. It is now eighteen months since he ceased all treatment, and there has been no return of the old trouble.

Case III.—S. H——, aged thirty-two years, married six months. Extremely nervous and irritable man. Complains that it is impossible for him to approach his wife without having an erection, which is extremely painful and which is almost immediately attended with a premature ejaculation. The act of coition is with him an utter impossibility. Sexual thoughts, pictures of nude persons, etc., all help to produce this abnormal erection and premature ejaculation. Patient feels himself a very miserable man, and thinks the time is not far distant when he will be entirely impotent. This latter idea is attributed to the fact that he has noticed a white glairy discharge from his penis, which occurs after urinating, but most frequently after a movement of the bowels. He considers this discharge to be semen, but on microscopic examination it was found to contain no spermatozoa, but to be of prostatic origin. Examination of penis reveals a condition similar to Case I. The treatment was the same as above, and a good result was established in seven weeks. It is now thirteen months since patient ceased treatment, and he writes that he is in perfect condition.

Appended here is the summary of the histories of a few more cases.

Case IV.—C. P——, aged thirty-three, unmarried; merchant. Complains of defective memory. Forced conceptions bother his mind constantly. Has led a very dissipated life. Does not like to be left alone, and at present feels very much discouraged and despondent over his condition. Frequent seminal emissions. Imperfect erections. Premature ejaculations and intromission impossible. Bowels constipated. Hyperæsthetic prostatic urethra. Treatment, laxative pill for bowels; Weir Mitchell's rest cure (modified); rectal psychrophore. After seven weeks' treatment perfect result.

Case V.—F. H. L.——, complains of lack of vigor. Feels that he does not do his work in a way which does justice to himself. Discouraged and despondent. Complains of frequent seminal emissions. Erections are fairly well developed, but the ejaculations are precipitate and do not give him the pleasure they formerly did. Patient is fairly well nourished and of a very active disposition. Examination of penis revealed an extremely hyperæsthetic prostatic urethra. Strict hygienic course of treatment with rectal psychrophore. Good result.

Case VI.—A. L——, aged thirty years; married. Very hard-working man and very much worried about himself. Has a double murmur. Complains of nightly pollutions. Is covered with an eruption due to the enormous amount of bromide that he has been taking. Marked dorsal and shoulder pains. Feels fatigued and weary the greater part of the day. An erection to him is a rarity. Emissions are attended with pain and severe palpitation. Stricture was found in this case and divided. Treatment: Modified rest cure, with rectal psychrophore. Very much improved after six weeks' treatment. Patient then went home and have not heard from him since.

Case VII.—N. F——, aged thirty. Five months ago patient began to notice a discharge from the urethra which gave him, as the patient explains it, a feeling similar to that which he experienced when he indulged in sexual intercourse. Sexual abuses had been carried on for years, until patient found that his erections were getting more and more imperfect, and that intromission was difficult. Memory poor, and he seems to have lost all energy to do any work. Sleeps well, but does not feel the benefit of the rest that he should. Pain in extreme lower portion of spine. Strict hygienic course of treatment, with rectal psychrophore. Result a very good one.

Case VIII.—L. A——, aged thirty-two, merchant; married six years. Extremely irritable and nervous man. Complains of inability to have proper sexual relations with his wife. Erections are very weak. Has no seminal emissions. Was accustomed to have sexual intercourse with his wife five and six times weekly during the first five years of his married life. Man appears poorly nourished and suffers considerable dorsal and shoulder pain. Extremely hyperæsthetic prostatic urethra and an organic stricture of small calibre, which was overcome by sound treatment. As the other symptoms were still present to a slight degree I advised rectal psycrophore, and after three weeks patient was discharged as well.

Case IX.—J. S——, aged twenty-four; unmarried. Addicted to masturbation. Complains of frequent seminal emissions. Pain over dorsal portion of spine. Inability to concentrate his mind upon his work. Has noticed some deposits in his urine, and supposed it to be semen. Over this he has worried very much. Erections are very feeble. Ejaculations are premature. Penis is cold and flabby. Patient himself is a pale, anæmic, and ill-nourished looking individual. Has had gonorrhœa twice. No stricture. Hyperæsthetic prostatic urethra. Strict hygienic course of treatment, with rectal psychrophore.

Case X.—J. J——, aged twenty-three; insurance agent. Denied masturbation, but admits having indulged in sexual intercourse to excess. His erections have been growing more and more feeble. His desire is almost abolished and no pleasure is derived from the ejaculation. He complains also of an inability to retain his urine for any great length of time. He fre-

quently suffers pain after its passage. No stricture, but an extremely hyperæsthetic prostatic portion of the urethra was found. Strict hygienic course of treatment, together with the rectal psychrophore, was followed out. Good result after five weeks' treatment.

CASE XI.—L. A——, aged twenty-four, clerk; unmarried. Addicted to masturbation and sexual dissipation. Complains of frequent seminal emissions, premature ejaculation, and inability to have intromission. Insomnia is a constant symptom with this man. Hyperæsthetic prostatic urethra. Treatment same as above. Result a good one.

CASE XII.—J. K——, aged twenty-six; law student. Pale, anæmic-looking individual. Complains of seminal emissions, which he thinks were brought on by excessive masturbation. Is unable to concentrate his mind upon his work. Sleeps poorly. Has dorsal pain more or less constant all day long. Lately has observed that his erections have been growing weaker, and that intromission is difficult. Denies ever having had any venereal trouble. No stricture. Hyperæsthetic prostatic urethra. Treatment same as above. Good result.

Thus I might go on adding to this list, but I consider the above cases a sufficient number to give the reader an idea of what class of patients can be benefited by this method of treatment, and what is to be expected.

Now, it may be said, firstly, that just as much success in treatment can be obtained by the intelligent use of sounds and the urethral psychophore. I do not deny this, but I must say that in my own experience I have not met with such rapid improvement as when the rectal method was employed. Secondly, the use of the above instruments in the hands of inexperienced practitioners is not to be recommended. Thirdly, how often do we find the external meatus of the penis too small to admit the passage of a sound of proper size. Then an operation, which is always disagreeable for the patient, must be resorted to, in order to correct the obstacle. Why should we not, therefore, if we can, avoid all these little difficulties, and make use of the more simple and encouraging method of treatment?

113 WEST SEVENTY-SEVENTH STREET.

Progress of Medical Science.

Thermodine.—Dr. Schmitt describes this substance as occurring in white pointed crystals, without odor and almost tasteless, although upon trituration there is developed a special aromatic odor, and after some seconds, if a fragment is placed upon the tongue, a persistent bitter taste is perceived. It is slightly soluble in cold (1 to 2,600), more easily in warm water (1 to 450), but readily in alcohol, ether, benzine, carbon disulphide, and chloroform. While physiological researches have demonstrated the harmlessness of doses, even relatively large, in healthy men, they have also determined its method of elimination. It is absorbed with the aid of the lactic acid of the stomach, is decomposed slowly in the economy into amidophenol, which is eliminated in the urine, probably also in the perspiration, and possibly in the saliva. A small proportion, if the dose is large, may be eliminated unchanged. The dose employed at which anti-thermic effects have been manifest is between six and seven grains. On twenty-nine patients, suffering from typhoid fever, influenza, tuberculosis, articular rheumatism, and pneumonia, the effect was found to be a gradual fall of temperature, commencing generally within an hour after its administration; this fall is gradual, reaching its lowest point within about two hours. This point is retained up to the third or fourth hour, when the ascent takes place in the same regular and slow manner as the fall, and the initial degree is reached generally in from seven to nine hours after the administration of the drug. The extent of the fall of temperature depends somewhat upon the dose. Five grains in tuberculosis does not always give appreciable results; eight grains are usually sufficient. Tuberculosis is more easily influenced and with smaller doses than is typhoid fever, and pneumonic fever is less amenable to this drug. The pulse curve follows closely that of the temperature, although the pulse may be influenced later than the temperature as regards the diminution of the number of beats, but it is likely to become accelerated as soon as the temperature commences to rise. Sometimes the pulse-rate remains unchanged although there is a notable lowering of temperature. There have been no accidents in the use of this drug which are worthy of record; no gastric disturbances, vomiting, cyanosis, nor collapse. Occasionally sweating, and more rarely chilly sensations, have been noted. The drug apparently does not modify the hæmoglobin. The remedy has been generally administered in the morning in a single dose, and the quantity has been from the amount above named up to (rarely) fifteen grains. In conclusion, it can be said that thermodine is an antipyretic without danger, constant in its action, but very slow in producing this effect, and its results are sufficiently prolonged. It presents certain advantages over phenacetine, although it is inferior to it in activity, and it is expensive.—*The American Journal of the Medical Sciences.*

Typhoid Septicæmia and Pseudo-typhoid Infection.—Cases occur which in their course and chief symptoms closely resemble typhoid, but which on minute pathological examination show an absence not only of the ordinary typhoid characteristics, but also of any other signs which could lead to a certain diagnosis as to the nature of the affection. Dr. Banti describes some cases of this nature, of which the following notes will give the chief characteristics (*The British Medical Journal*). The first case was exposed to typhoid infection, and shortly afterward she became ill with headache, loss of appetite, and afterward fever. She had a typical typhoid facies, with dry tongue, slight delirium, subsultus tendinum, etc., but all through the course of the affection there was a complete absence of diarrhœa, cutaneous rash, meteorism, and enlargement of the spleen. The case terminated fatally after the third week. The post-mortem examination showed a complete absence of enlarged follicles in the intestines, a single minute ulcer in the end of the duodenum, a small spleen, a normal liver and mesenteric glands. The kidneys were slightly enlarged, and showed cloudy swelling of their epithelium. The blood and juices of the organs yielded typical cultures of the typhoid bacillus. The reason for the absence of the usual pathological signs of typhoid in the above case is difficult to find, but the author suggests that perhaps the body became infected through the small ulcer found in the jejunum, giving the infection a septicæmic character, and preventing the usual lesion of the intestinal lymphatic apparatus. The cases of pseudo-typhoid described in the same paper all occurred in one household, the members of which were affected one after the other with an affection clinically almost impossible to distinguish from true typhoid. The only symptom failing was the usual petechial rash. One case ended fatally, and on examination showed a complete absence of bacilli from the blood or exudations. The spleen was much enlarged, also the intestinal solitary glands. Typical typhoid ulceration was wanting, but there was an extensive intense enteritis. This group of cases would be extremely difficult, if not impossible, during life to differentiate from cases of true typhoid, unless one insists on the presence of a rash as a sign of this disease; yet the pathological examination excluded the possibility of considering them as such. The author prefers to group them under the heading "pseudo-typhoid."

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, April 13, 1895.

TREATMENT OF AFFECTIONS OF THE HEART FOLLOWING INFLUENZA.

DR. ERNEST SANSOM gives an account in *The Practitioner* of the nervous disturbances of the heart following influenza, and adds some practical points in treatment. For influenza itself, Dr. Sansom seems to rely chiefly on sulpho-carbolate of soda in half-drachm doses —for what reason he does not tell. He adds to this, however, when needed, quinine and phenacetin for fever, and, in adynamia, five grains of musk.

The signs and symptoms referred to the heart resulting from influenza in cases under the writer's observation were thus distributed: In one hundred cases: pain referred to the heart, twenty-three cases; the rapid heart (tachycardia), thirty-seven cases; the irregular heart (arhythmia cordis), twenty-five cases; the slow heart (bradycardia), five cases; organic disease of the heart, ten cases.

In heart pain he gives a hypodermic of morphia with a diffusable stimulant such as: Spiritus ætheris, 3 ss.; spiritus ammoniæ co., 3 ss.; tinct. sumbul, 3 ss.; aquæ camphoræ, ℥ iss.; to be taken as a draught before the administration of morphia, and repeated an hour afterward. Once the severity of the pain is thus mitigated, other agents than morphia should be employed. Quinine in five-grain doses dissolved in hydrobromic acid is often very effectual. Local sedative and counter-irritant applications may also be required.

Tachycardia after influenza is sometimes not noticed and the pulse may not be much above 100. Some of the vaso-motor and eye symptoms of Graves's disease may be present. Dr. Sansom regards digitalis and strophanthus as not only useless but dangerous, and he also avoids opium. He prescribes bromides with arsenic and symptomatic drugs for dyspeptic symptoms which are apt to be present. In many cases drugs are of no avail, and he advises that a mild galvanic current be given three times a day for six months! He states truly that patience is required. The irregular heart is usually associated with symptoms like those with tachycardia, and much the same treatment is indicated.

Bradycardia sometimes occurs and may be severe and persistent. In one case the pulse fell to 19 per minute. Phenacetin and camphor with local warmth and counter-irritation are effective in mild cases. In the more obstinate tincture of belladonna may be given in ten-drop doses.

HYPNOTISM AND CRIME.

THE newspapers announce that the Supreme Court of Kansas has rendered a decision in which hypnotism is recognized, both as a defence and as a ground for conviction of crime. The case passed on came up from the County District Court. Thomas McDonald, without apparent provocation, shot and killed Thomas Patton near his home, in Winfield, May 5, 1894. He was arrested, charged with murder, and set up a defence that he was under the hypnotic influence of Anderson Gray, and was neither legally nor morally responsible for the deed. He was acquitted, and then Gray was put under arrest and tried for the murder. He was found guilty of murder in the first degree, notwithstanding the fact that he was not present when the crime was committed, the evidence for the State only going to show that he caused McDonald to commit the murder through hypnotic influence. An appeal was taken to the Supreme Court, and, in an opinion rendered, the ruling of the lower court was sustained.

If the above represents the truth about the case we should feel that the decision was entirely premature and unwarranted by our present knowledge of hypnotism. There are several problems which would have to be solved before an intelligent court could render the decision which it did. First, it would have to define hypnotism and its degrees; next, it would have to furnish some indisputable evidence that a particular individual was hypnotized, and finally, it would have to show that a person otherwise not criminally disposed could be made to do a murderous act while in this hypnotic state. To us it seems practically impossible that a court of laymen could solve these problems, and as a matter of fact we believe that the element of hypnotism played a very small part in the determination of the judicial opinion. It was rather a case of very undue influence exercised by a person of strong character upon one who was intellectually and morally weak.

CASTING UNJUST REFLECTIONS ON THE PHYSICIAN AS A PUBLIC OFFICER.

WE are credibly informed that a number of physicians of this city are urging his honor, the Mayor, to make up a new Board of Commissioners of Charities and Correction without including a Doctor of Medicine. This announcement will amaze the medical profession of New York, for it has been generally assumed, of late years, that it is essential that at least one of the three members of this important commission should be a physician. Certainly this is true, when we consider that they have the management of Bellevue Hospital, as well as the great medical institutions on Blackwell's Island. It seems impossible to conceive of any thoroughly good management without the presence of an expert in medicine and surgery on the Board. In certain emergencies the laymen appointed will be obliged to consult a physician in order to have a proper comprehension of their duties. We all know the results that follow when laymen have the undivided control of medical affairs. They either put their feet upon the necks of the doctors, which is said to have been the policy of a great hospital in this city,

some years ago, or they have a few favored ones in the medical profession whose will and wishes are law to them. The results of such a system are not beneficial to the matters in hand. We can scarcely imagine a proper motive for this attempt by members of our profession to foul their nest. Truly, "a man's foes are those of his own household." Is it possible that any of the professors in the undergraduate colleges are so anxious to secure the undivided and uninspected control of the Bellevue and Charity Hospitals, for the benefit of their institutions, that they are desirous of preventing the appointment of an independent member of the medical profession? We can hardly assume this to be the case, but since we know the origin of the opposition to a physician on this Board, we are obliged to suspect it. Unless the medical profession repects itself, it can never be respected by the community at large. To acknowledge that a doctor is not fit to be on the Board of Commissioners of Charities and Correction is to cast a reflection on our own class which we are sorry that any member of the profession should appear to be willing to do. We trust the Mayor will not listen to any advisers who do not recommend the appointment of a physician of high character and executive ability to a Board where such a man can better serve the city than a member of any other class.

PICTURES OF THE COUNTRY PRACTITIONER.

THE very pleasant fashion of publishing the pictures of eminent medical men in medical journals has become a feature of the day, and is particularly developed in the West. We rarely open one of our esteemed contemporaries now without finding a picture of some rising or risen light. The practice is one that has many things to commend it; for one often appreciates at a truer value the writings of a man whose face is known. An article that seems vigorous, original, and striking may receive a more cautious interpretation after seeing the counterfeit presentment of its author.

We are particularly pleased to see that the *Cincinnati Medical Journal* is taking up the cause of the country practitioner, and has begun a series of illustrations of the representative men of this class in Illinois. We hear a great deal and say a great deal about the country practitioner—his hardships, his struggles, his resourcefulness, his utility, and his success as a factor in society. Our contemporary gives us pictures of twenty-nine of the class, and promises more. He begins with Illinois, because "in no State has the medical profession played a more important part," or, apparently, held more offices—though in this latter point injustice is perhaps done to Ohio.

The faces of the Illinois practitioners show them to be a vigorous and healthy-looking set of men. There are no sunken eyes or hollow cheeks, and, unlike the Bostonians, none of them are bald. We note that the tendency to wear a patriarchal beard is dying out. Altogether, the collection is flattering to the personal qualities of Illinois doctors, and we await with some eagerness to see if other States can do as well.

SHORT-HAND IN MEDICINE.

THERE is so much to be learned by the medical student that the addition of short-hand seems rather unnecessary. It is a fascinating art and, no doubt, can be made of considerable service to professional men. But it requires much time to learn it, and it is of no use unless well learned. The time might, in most cases, be better spent. Still, in London short-hand seems to be popular, and a prosperous Society of Medical Phonographers, numbering over one hundred, exists. The Society publishes a monthly journal, and it has, we are told, led to the discovery that many physicians, who were never suspected of the accomplishment, were at one time quite skilful with the hooks and lines.

News of the Week.

The Arkansas Medical Law.—A bill was recently introduced into the Arkansas Legislature, repealing the present medical law, and creating county instead of State boards of medical examiners. The Governor vetoed the bill, but the House promptly passed it again over his veto by a vote of 51 to 33.

Unfavorable Report on Antitoxin.—After a thorough study in various hospitals of Berlin of the use of Behring's diphtheria-serum, Passed Assistant Surgeon F. J. B. Cordeiro, U. S. N., in a report to the Surgeon-General of the Navy, concludes that so far proof is lacking of the value of antitoxin in the treatment of diphtheria. Dr. Cordeiro adopts the following opinions of Kassowitz: "1. A large number of children treated with both small and large immunizing doses have within a few weeks acquired diphtheria, and some of them have died of it. We do not possess a single scientific proof that a case of diphtheria was ever prevented by the immunizing process. 2. Children who during a first sickness have been treated with large doses of serum have a short time after acquired diphtheria anew. They were not rendered immune either by their sickness or the largest doses of the antitoxin. 3. In a large number of cases children have been treated on the first or second day of their illness with the fullest doses of the antitoxin and have died. 4. It is certain that a large part of those who have died notwithstanding the serum treatment did not die from the effects of a mixed infection, but directly from the specific effects of the Löffler bacillus. 5. Heart and other post-diphtheritic paralyses are also seen in early and fully treated cases, and they occur as often as they did before the serum treatment. 6. Of a fever fall by crisis in the first twenty-four hours, and of a pronounced antipyretic effect of the serum, most observers have seen nothing or next to nothing. 7. The separation of the membranes follows in the cases that run a favorable course in the customary manner. But often there is an extension of the local process, and a renewal of the already separated membranes during and after the serum treatment.

"The burden of proof lies with Behring and his coworkers. The world will eagerly and only too willingly receive this proof. We know that the former ex-

travagant promises are out of the question, but we should be grateful to have it demonstrated that the serum can reduce the mortality by even one per cent. As yet we have not the slightest basis on which to found an expectation that fewer children will die in the future of this disease on account of the serum treatment."

Dr. Cordeiro's paper will be published in full in the next annual report of the Surgeon-General of the Navy.

The Cholera is beginning to increase again in Russia with the advent of milder weather. Between March 10th and March 23d, in the province of Podolia, there were eleven cases of cholera and six deaths from that disease. From March 10th to March 16th there were fifty-six cases of cholera and four deaths in the province of Volhynia.

Cardiocentesis.—In our editorial article on this subject (March 30th) the statistics collected from the Index Catalogue should have been credited to Dr. James R. Church, of Washington, D. C. (*Medical News*, October 27, 1894), instead of Dr. Allen Thomson Sloan, as implied.

A Novel and Popular Plan.—The Cleveland Medical Society has adopted the novel plan of having addresses made and clinics held before the Society once every three months by men of prominence throughout the country. The secretary reports that he receives requests from all parts of the United States from the leading men in the profession for opportunity to read papers before the Society. At the last quarterly meeting, Dr. M. Allen Starr, of this city, read a paper on the "Mechanism and Causation of Nervous Diseases."

Legalized Dissection in New Jersey.—An act to provide for the incorporation of pathological and anatomical associations for the advancement of medical and surgical science, and the legalization of dissection of paupers, has been passed by the Legislature of New Jersey, and has been duly signed by the Governor.

A Well-deserved Compliment.—Dr. I. Boas, of Berlin, has been elected President of the Society of Post-graduate Medical Instruction of Berlin. This is a well-deserved compliment to a gentleman whose reputation in his specialty is world-wide.

The Late Dr. Alfred L. Loomis.—At a stated meeting of the New York Academy of Medicine, held on Thursday evening, April 4, 1895, the following resolutions were passed :

Whereas, Our associate and former President, Alfred L. Loomis, M.D., LL.D., has been removed from among us by death, therefore be it

Resolved, That in the death of this distinguished man the profession of medicine has lost one of its ablest teachers, one of its wisest leaders, and that the Academy of Medicine has lost a Fellow who contributed largely to its present prosperity; for, at a time when it had become important that a new site should be secured, it was greatly through the courage and enterprise of Dr. Loomis that this was accomplished and the present large and sufficient building erected.

Resolved, That in view of the position occupied by Dr. Loomis in relation to this Academy, it is recommended that a memorial meeting be held in the hall of the Academy on the first Thursday in May, and that the President be requested to invite representative speakers and take such further action as he may deem appropriate.

Resolved, That a copy of these resolutions be sent to the family of Dr. Loomis, and that they be published in the secular and medical press.

WILLIAM M. POLK, Chairman,
FRANCIS DELAFIELD,
ANDREW H. SMITH,
Committee.

Georgia Physicians Practising Illegally.—A report comes from Macon, Ga., that the discovery has been made that a very large proportion of the profession throughout the State are practising illegally and are guilty of a misdemeanor. Under an act passed by the last Legislature, all physicians were required to register by January 1st in the Court of Ordinary of their respective counties. More than half of the physicians of the State, it is said, have neglected to do this.

Omaha Medical College.—The Omaha Medical College graduated a class of twenty-four, April 4th. The address was delivered by Chancellor W. S. Chaplin, of Washington University, St. Louis, on "Medical Education; what it was, is, and ought to be."

Bovine Tuberculosis.—The Governor of New Hampshire has vetoed the bill recently passed by the Legislature of that State appropriating $100,000 for the suppression of bovine tuberculosis. Farmers' vote!

A Tax on Physicians.—The *North Carolina Medical Journal* writes editorially, in sharp language, concerning a recent bill in the State Legislature levying a tax of $10 a year on every practising physician. Such legislation is unprecedented, and seems to have absolutely no reasonable foundation.

Medical Practice in Kansas.—A bill this year to regulate the practice of medicine in Kansas met with the following result: It passed the House but was defeated in the Senate. One of the legislators said on the floor:

"We Western people can get a lot of old women who are better than any of them."

Is this ignorance or is it politics?

Physicians' Fees in Illinois.—In the Illinois Legislature a bill was introduced regulating the fees of physicians and surgeons and providing for a maximum surgical fee of $100.

Reduction in the Fee for Life Insurance Examinations.—A very polite notice has been issued by one of the prominent metropolitan life insurance companies of this country to its examiners, to the effect that the fees for examination have been reduced from five to three dollars, and very naturally many of the examiners object to this. (*Maryland Medical Journal.*) Whether such a reduction is caused by the general depression of business, by a desire on the part of the company to make a better showing in expenses, or whether the great reduction in prices brought about by the Wilson bill and other causes has at last hit the physician, it is hard to say. At any rate any reduction is naturally met with much opposition, and Dr. DeLancey Rochester, of Buffalo, makes a very strong and dignified reply

to this cut-rate order in the *New York Medical Journal.* He very clearly shows that a careful examination is worth at the very least five dollars, and in private practice usually more is charged, and yet here is a large company that is inviting its physicians to make a less careful examination, for it is very evident that an examination for five dollars is one thing, and one for three another, and if a company reduces its fees to three dollars, the physician who still continues to do the work gives a three-dollar examination.

The American Academy of Medicine.—The twentieth annual meeting of the American Academy of Medicine will be held in one of the buildings of the Johns Hopkins University, Baltimore, on Saturday, May 4th, and on Monday, May 6, 1895. The "Headquarters" of the Fellows of the Academy and the meetings of the Council will be at the "Stafford." The meeting will open at ten o'clock on Saturday morning with an executive session of the Fellows of the Academy exclusively; the reading of the papers will begin at about eleven. The morning session will close at one o'clock, and the session of Saturday afternoon will extend from three to six. The "Reunion Session" will be held on Saturday evening. By a standing rule the price of the tickets for the supper is fixed at two dollars. Attendance at the reunion session is not confined to the Fellows exclusively, hence any member may bring friends with him by arranging for their tickets with the committee. For the past two years ladies have been present at this session and have added to the enjoyment. This session of Monday will begin with a short executive meeting, after which the reading of papers will be resumed; after a recess at one, the afternoon session will begin at three and continue until adjournment. Members of the profession, and others who may be interested in the topics treated by the papers, are cordially invited to attend the open sessions of the Academy.

The Wooten Bill to regulate the practice of medicine and to prescribe the qualifications of physicians and surgeons, now before the Texas Legislature, has been reported back by the Committee on Public Health with the recommendation that it do pass, as amended by the committee. It repeals all acts in conflict with it, of course.

The College Commencements.—The Fort Wayne College of Medicine held its annual commencement on March 12th.

The Beaumont Hospital Medical College held its annual commencement exercises Thursday evening, March 14th, at which seventeen graduates were granted the degree of M.D.

The Barnes Medical College held its third annual commencement March 14th, graduating a class of sixty-four.

The Missouri Medical College graduated a class of seventy on March 19th.

The Marion-Sims College of Medicine held its annual graduating exercises on March 18th, conferring degrees on a class of fifty-four. Dr. J. M. Mathews, of Louisville, addressed the graduates of the Marion-Sims College on the evening of March 18th.

The University of Louisville held its commencement on March 18th.

Massachusetts has also gone into the drug business, and its Board of Health has arranged to supply diphtheria antitoxin.

The St. Louis Public Library undertook to care for the medical libraries of several of the local societies. According to the *Medical Review* the pledge has not been kept. Books are not catalogued, pamphlets not bound, and, most shocking of all, the library does not subscribe for the leading medical weekly of this country, the MEDICAL RECORD. We agree with the *Review* that the laggard should be stirred up or the books restored.

The Buffalo General Hospital has received the munificent gift of $55,000, which is to be applied to the building of a new structure. This royal donation was made by four of Buffalo's most philanthropic women. Mrs. George B. Gates contributed $40,000 of the amount, and her three daughters—namely, Mrs. William Hamlin, Mrs. Charles W. Pardee, and Miss Elizabeth Gates—each added $5,000 to the sum.

Life Insurance Companies depend for their success upon the skill, intelligence, and character of the medical men who examine for them. It behooves them to treat the medical profession in a generous manner. Yet the New York Life has just reduced its fee for examinations to three dollars, and the Equitable, and we presume other companies, send out circulars begging for free information regarding the character of those whom they employ.

National Association of Railway Surgeons.—The Annual Convention of the National Association of Railway Surgeons will be held at Chicago, on May 1, 2, and 3, 1895. This date was selected by the officers and members of the executive committee, so that members wishing to attend the meeting of the American Medical Association, which is to be held on May 7th and following days, will be able to do so on the same trip.

Florida Medical Association.—The seventy-second annual meeting of this Association will be held at Gainesville on Tuesday and Wednesday, April 16 and 17, 1895. The president of the society is Dr. J. D. Rush, of Apalachicola, and the secretary, Dr. J. D. Fernandez, of Jacksonville.

Dental Law in Nebraska.—The dentists of Nebraska have now a law, just enacted, by which the present State Board of Health is made judge of their fitness for practice. The law is a copy of the medical practice act, but made to apply to dentists.

The Code Controversy will not down, and the American Medical Association will doubtless be obliged to modify its position in regard to it to meet this change in views, which is rapidly growing, and which will result, if it goes on, in the disintegration and final annihilation of this august body.

The Cleveland Medical Society and the Mississippi Valley Medical Association have recently joined the Medical Society of the State of New York in its onslaught upon the Code, and the combination must have a powerful influence in bringing the National body to its senses.—*New York Medical Times.*

Reviews and Notices.

AN INTERNATIONAL SYSTEM OF ELECTRO-THERAPEUTICS FOR STUDENTS, GENERAL PRACTITIONERS, AND SPECIALISTS. By HORATIO R. BIGELOW, M.D., Permanent Member of the American Medical Association, etc., and Thirty-eight Associate Editors. Thoroughly illustrated. Philadelphia: The F. A. Davis Co. 1894.

A SUBJECT treated by thirty-nine different persons acquainted with its nature and the laws that govern it is deserving of respect and careful consideration. Goelet, Sajous, Rockwell, Riggs, Morton, Prince, Mary Putnam-Jacobi, Frederick Peterson, W. J. Morton, A. Wilmer Duff, and Wesley Mills are the names of some of the associates that are especially attractive. The chapters on electro-physics, animal electricity, static electricity, and magnetism are of general interest, together with those concerning currents and apparatus, and electro-physiology. Apostoli's methods are considered at length, as is also the use of electricity in diseases of the nose, naso-pharynx, pharynx, and larynx. Papers on facial blemishes, diseases of the skin, the eye, the intestinal tract, the nervous system, etc., capable of improvement or cure by electricity, are carefully written by well-known specialists and general practitioners. Every effort has been made to place electro-therapeutics on a firm basis, by securing from competent physicians a record of their experience and observation. The result is a useful compendium of medical facts relating to the cure or alleviation of disease by electricity, and is certain to meet the requirements of the ordinary student, specialist, and general practitioner.

HEALTHFUL WOMANHOOD AND CHILDHOOD. Plain Talks to non-Professional Readers Relative to Healthy and Diseased Conditions Peculiar to Women, and Concerning the Care of Young Children. By HENRY BIXBY HEMENWAY, A.M., M.D., Instructor in Laryngology and Diseases of the Chest, Rush Medical College, Chicago. Evanston: V. T. Hemenway & Co. 1894.

THIS book is without a reason for being. It says too much and too little. It is not medical literature, and it is not literary writing. In it women of the day are arraigned because of their wide dissemblance to the classic statues of antiquity, and feminine imperfections generally are laid to corsets and high heels. "Many cases of nervous disorder, even of imperfect vision, have been traced to high heels." Diseased conditions are not appropriate subjects for plain talks to non-professional readers. For this and other reasons, the Hemenway's production is neither fish, flesh, fowl, nor good red herring. It is worthless reading and waste of time.

A PATHOGENETIC MATERIA MEDICA: Based on Drs. Hughes's and Dake's Cyclopædia of Drug Pathogenesy. By the MEDICAL INVESTIGATION CLUB OF BALTIMORE, MD. Members, Honorary: Elias C. Price, M.D., Professor Institutes and Hygiene, Southern Homœopathic Medical College. Active: Eldridge C. Price, M.D., Professor of Materia Medica and Therapeutics; Robert W. Mifflin, M.D., Professor of Pathology and Practice of Medicine; O. Edward Janney, M.D., Professor of Pædology and Orthopædic Surgery; George T. Shower, M.D., Associate Professor of Physiology and Lecturer on Pharmacy and Toxicology; Henry Chandlee, M.D., Professor of Obstetrics, Southern Homœopathic Medical College. Philadelphia: Boericke & Tafel. 1895.

THE author club or the club author of this work has given here the result of several years' investigation of the materia medica, some of which has already appeared in periodical literature. It cannot be considered at all complete, since but forty-seven drugs have been proved. It will, however, be found of value as a repertory of important and well-proved drugs, used in connection with other works. Some of the symptomatologies are far from being full. The work shows the need of a thorough and scientific retesting of even the best-known drugs, and indicates the character which future materia medica investigations and efforts at systematizing must take on.

RELATIONS OF DISEASES OF THE EYE TO GENERAL DISEASES. By MAX KNIES, M.D., Professor Extraordinary at the University of Freiberg. Forming a supplementary volume to every Manual and Textbook of Practical Medicine and Ophthalmology. Edited by HENRY D. NOYES, M.D., Professor of Ophthalmology, Bellevue Medical College; Executive Surgeon to the New York Eye and Ear Infirmary, etc. Pp. 467. New York: William Wood & Company. 1895.

THE book is of convenient size and the text is printed in large, clear type. There are about thirty illustrations placed in the body of the text. The modest prefaces of author and editor portend directness and lack of verbosity in the treatment of the subject which the text fully substantiates. The subject-matter is divided into nine chapters, of which the first is devoted to the nervous system. This chapter comprises 245 pages. In it is found an excellent discussion of the anatomical relations of the eye to the brain, which is up to date and is of much value to the ophthalmologist and neurologist. A careful consideration of the various affections of the eye and of its appendages which occur as a result of diseases of the nervous system follows. The second chapter is devoted to a discussion of the relation of diseases of the eye to diseases of the skin. The subject is treated in a very clear, concise, and comprehensive manner. Chapters on the relation of diseases of the eye to diseases of the respiratory, circulatory, urinary, and sexual organs follow. The effects of poisons and of the infectious diseases are treated of in the same chapter. This, we think, is a very happy combination, serving as it does to acknowledge the similarity of the effects of poisons and of the ptomaines, generated by the etiological factors of infectious diseases on the system. The ninth chapter is devoted to a consideration of the relation of the eye to the non-infectious, constitutional diseases, which includes anæmia, plethora, obesity, Addison's disease, chlorosis, diabetes, etc. This chapter is fully up to the excellent standard of those which precede it.

The discussion of the disorders of the voluntary muscles, accompanying disease in other parts of the body, makes no mention of the so-called "insufficiencies," an omission which does not detract in any way from the value of the work.

A careful perusal of the contents of this volume convinces us that it is a work of high merit and of great practical value to those for whom it is intended. The author is to be congratulated on the production of a volume which treats so ably of a subject that is of such importance to so large a portion of the medical profession. Nothing farther need be said in commendation of the work performed by the editor of the American edition than to refer to his name.

MEMORANDA AND TABLES OF HUMAN ANATOMY. Vol. I. By JUSTIN HEROLD, A.M., M.D., formerly House Physician and Surgeon at St. Vincent's Hospital, New York, and SEBASTIAN J. WIMMER, M.A., M.D. With Preface by Professor James E. Garretson, A.M., M.D. 18mo, pp. 296. Philadelphia: Medical Publishing Co. 1894.

THIS little work contains a well-arranged tabulated account of the origin and insertion of the muscles, and will doubtless be especially useful in preparing for examinations.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL SURGERY.

Stated Meeting, March 11, 1895.

B. FARQUHAR CURTIS, M.D., CHAIRMAN.

Excision of the Tongue for Epithelioma.—DR. C. N. DOWD presented two patients as examples of the cure of epithelioma of the tongue by operation. One case was in a man, operated upon by Dr. Hartley, through whose courtesy he presented the patient; the other was in a woman, operated upon by himself a year later, or three years and a quarter ago; in both the epithelioma involved the posterior portion of only one-half of the tongue, was of a diameter of about three-fourths of an inch, and in both one-half of the tongue was amputated by the Whitehead method; but in the case of the woman the tip of the tongue was saved. The woman was able to talk nearly as well since the operation as previously, and the man could also talk well. A quotation was read from Treves's "Manual of Operative Surgery," to the effect that it was very unwise to leave half of the tongue, as it became distorted and rolled about aimlessly. Dr. Dowd thought the present cases disproved that assertion. They also taught the lesson that one should operate early if he would give the patient the best chance for permanent cure. In a case operated upon last fall there had been recurrence in the glands of the neck, and he thought it safer always to remove these.

DR. R. A. SANDS said that his father, the late Dr. H. B. Sands, had done many operations for malignant disease of the tongue, and, so far as he knew, none of the cases in which he performed Whitehead's operation were now living, although he was an ardent advocate of that method when it first came out. Only one patient had lived over ten years. The speaker thought we should wait longer than two or three years before pronouncing definitely upon the cure.

Nephrectomy for Rupture of the Kidney.—DR. F. KAMMERER presented a specimen of ruptured kidney and the patient from whom it was removed. A girl of about eleven years had come under his observation four months ago with a history of having fallen two weeks before a distance of one story. She was picked up unconscious, had sustained fracture of the lower jaw, and, judging by the shock and severity of the symptoms, it appeared evident that there was some internal injury. She had passed some blood with the urine. When he first saw her she was in very feeble condition, the temperature ranged from 103° to 105° F., and at a second examination the following day a tumor was recognized in the left inguinal region as large as a cocoanut. The diagnosis was injury to the kidney; lumbar incision was made; a perinephritic cavity was reached from which some urine escaped; the kidney was found completely severed in a transverse direction, the lower quarter having receded from the upper three-quarters a distance of over an inch. The rupture had been as clean as a cut with a knife. Nothing was done except to tampon the wound, allow it to granulate, and urine to escape externally. The patient did well for six weeks, when there was rise of temperature, pointing to obstruction of drainage. An incision was made, the upper three-quarters of the kidney were found readily, the lower quarter had been replaced by a mass of cicatricial tissue, the normal tissue having been absorbed. This was not so astonishing when it was remembered that the lower portion had been severed from its connection with the renal vessels. He hesitated what to do, but inasmuch as the other kidney was sound, and believing that the inflammatory and suppurative process had extended into the remaining segment of the left kidney, and also knowing that fistulæ in the pelvis of the kidney were much more difficult to heal than those in the body of the organ, he decided to remove it. This was two months ago, and the patient had done well since.

Dr. Kammerer thought that usually in wounds of the kidney we should try to save the organ, but he could not agree with those who asserted that it must never be removed. If he should meet with a similar case to this one, he thought he would split the kidney in the median line, tampon the pelvis with the hope that the pelvis would close, and afterward secure union of the split portion. Possibly the kidney could be saved in that way.

Suture of the Musculo-spiral Nerve.—DR. B. B. GALLAUDET presented a man who had been brought to Bellevue Hospital, October, 1893, with a stab wound of the left arm, which had divided the musculo-spiral nerve and caused wrist-drop. The nerve was found by making an incision along the inner margin of the supinator longus, then tracing it to the divided end. The ends were about a fourth of an inch apart, held together by a piece of the sheath. He united them by fine silk, closed the wound, put the arm up in flexion. Improvement scarcely became perceptible before the end of the seventh month. After about a year there was full restoration of function. He impressed the importance of suturing divided nerves as soon as possible.

DR. R. A. SANDS had sutured the musculo-spiral twice, and had assisted at three other operations, all secondary, and it was noted that in all the restoration of function was delayed longer than one might have expected. In one in which his own persuasion had induced the patient to submit to an operation for the relief of wrist-drop following an injury by a scythe, he had given up hope of any benefit resulting, when, at the eighth month, improvement began and then progressed rapidly. Regarding the inner border of the supinator longus as a guide for finding the divided nerve, he said he had once assisted a well-known surgeon, who found himself much confused by the fact that at this point the supinator longus and brachialis anticus happened to be fused together, an anomaly which was not infrequent.

DR. C. B. WHITE mentioned a case in which sensation returned in from four to seven days, the divided nerve having been united not sooner than four months after the accident.

DR. LILIENTHAL mentioned a case of interest, because of the difficulty in diagnosis, and the chairman, DR. CURTIS, said he believed the usual length of time before restoration of function after uniting the divided nerves was from six to nine months, although there had been exceptional cases where it had taken place much sooner. Sensation had been known to return within a few days, but there was always a question whether it had not been restored through other nerves going to the part, or whether it had been entirely lost.

A Report of Thirty-five Cases of Amputation of Omentum in Hernia Operations, with Exhibition of Patients and Specimens.—DR. W. B. DE GARMO first presented a number of men upon whom he had operated for hernia, and also portions of the omentum removed, and afterward read an abstract of a paper with the above title. In December, 1887, he had read a paper before the Academy of Medicine on the conservative treatment of irreducible and incarcerated hernia in which he had reported fifteen cases, in most of them reduction having been effected without operation. In consideration of the severity of the operation at that time, and the fact that the hernia returned as a rule, the plea for conservative treatment which he then made was proper, but since then there had been such advances that we must look upon the teachings of that paper as obsolete.

This evening he wished to report thirty-five cases of removal of omentum, in three of which omentum was removed from both sides, cases of double hernia. In none had there been death. In none had he had any anxiety

about the patient's life. Of the thirty-five cases nine were in females, of whom two had inguinal and seven femoral hernia. Of the twenty-six males twenty-four had inguinal, one femoral, one ventral hernia, three had omentum removed from both sides. Nine of the total number had incarceration with more or less inflammation of the omentum. It was thought desirable that the discussion should deal principally with the removal of omentum, and with this object in view no other cases had been mentioned. It seemed to the speaker that there was nothing more important in the whole field of surgical treatment of hernia, except possibly intestinal repair, than the methods which should be carried out in cases of this character. For twenty years protruding omentum had been his worst enemy in the mechanical treatment of hernia, and he was convinced that to it was also due a number of the deaths which had resulted from attempts at surgical cure. Experience had taught him that any operation which did not open up the canal to the internal ring was liable to fail because of the frequency of adherent omentum at the ring or within the abdomen. In several of his cases the hernia had been supposed to be perfectly reducible before the operation. In all the last twenty cases the canal had been opened to the internal ring. Having opened the canal, the hernial sac was freed from its adhesions and opened. As much omentum as would come down by gentle traction was brought out. If there were adhesions at the internal ring or within the abdomen they were broken up. At times it had been found necessary to extend the abdominal incision above the internal ring. The omentum was spread out on a sterilized towel and unfolded until it was a single layer and every vessel of size could be seen. Beginning at one edge of this fan-shaped piece of omentum, numerous ligatures were passed and tied, no one of which included a piece of fat larger than a lead-pencil. Every vessel which could be seen was tied without including any fatty tissue. The omentum was then cut away. There were seldom any bleeding points. Aristol was dusted upon the fresh edges. The stump was then allowed to drop back. Sometimes he had used as high as twenty ligatures. Many surgeons considered such care unnecessary, and continued to tie off with one or two ligatures, but Dr. de Garmo was convinced that it was due to just such a course that accidents had happened. Some of the advantages of using so many ligatures were that the knot could be cut closer, the stump spread out in the abdomen instead of forming a plug, which was liable to again extrude, the possibility of including intestine was avoided, etc.

Attention was directed to the necessity for freeing adhesions at the internal ring. He thought failure to do this in his early cases was the cause of pain when the patients got out of bed after the operation, the adhesions having been pulled upon on assuming the erect posture. Formerly he did not move the bowel, at present he did. Formerly he used No. 10 ligature, at present No. 8, because the larger size was less liable to cut through the delicate structures. Every precaution was taken against sepsis.

Until comparatively recently he had operated by Barker's method, later by Basini's, using kangaroo tendon posterior to the cord, silk-worm gut in the aponeurosis of the external oblique, buried. Of the twenty cases treated by the latter method (Basini's), none had relapsed. The patients usually wore a light bandage for a time.

Conclusions: 1. All irreducible hernias should be operated upon unless contra-indicated by the age or condition of the patient. 2. All omentum found outside of the abdomen, or which protruded under gentle traction, should be removed. 3. Multiple independent ligatures of good-sized silk; vessels ligated independently of any fat. 4. A film-forming substance of some kind was believed to protect in a measure from subsequent adhesions.

Dr. C. B. White said that in a good many of the cases under consideration the hernia was strangulated, and in that event he thought it would not be advisable to consume much time in ligating the omentum in the manner described in the paper. After freeing and tying the omentum he would draw it up into the abdomen out of the way by a catgut suture, passing the suture out and burying it in the external wound. The catgut would be absorbed and cause no trouble. He preferred silk suture in closing the wound.

Dr. Milliken thought one could recognize the presence of omentum before operation by its slightly nodular character, its peculiar consistency, etc. Silk-worm gut in the aponeurosis was unnecessary; kangaroo tendon would answer. He had abandoned the use of drainage. He was pleased to hear the author speak so favorably of Basini's operation.

Dr. Lilienthal disapproved of fastening the omentum with catgut as described by Dr. White, for, although catgut was used, adhesions would form quickly and hold it there.

The Chairman agreed with Dr. Lilienthal's remark. He thought a truss was useless after these operations; it could give no support until hernia had recurred.

Dr. de Garmo was convinced that it would be only a question of time before Dr. White would lose a patient if he continued to treat the omentum as he had stated. No structure of the body required to be handled more delicately than the omentum, and he had been surprised to witness the careless way in which good operators handled it. As to recognizing omentum in all cases by the feel, he showed some specimens which he thought would deceive anybody. He did not use drainage. He was himself somewhat doubtful as to the advantages of a truss or bandage except in fat patients.

Fibroma of the Brachial Plexus; Excision.—Dr. J. F. Erdman presented the specimen. It was from a man, forty-two years of age, who had first been operated upon in 1887 by Dr. Dana, who stretched the ulnar and median nerves for pain; later different surgeons had operated, amputating the forearm, then the arm, etc., the last operation prior to his having been done some months ago by Dr. Abbe, who took out a section of the posterior roots and divided the anterior roots of the cervical plexus. There had been only brief relief from pain after the operations by Dr. Abbe and Dr. Erdman. The brachial plexus removed showed fibrous nodules.

Intestinal Intussusception.—Dr. Erdman also presented a portion of the ileum, near the cæcum, which he had removed in a gangrenous condition in the case of a child which had suffered three days from obstruction. Anastomosis was made with Murphy's button. The child died five hours after operation.

SECTION ON GENERAL MEDICINE.

Stated Meeting, March 19, 1895.

William H. Porter, M.D., Chairman.

A Review of the Present State of our Knowledge of Gout, and a Discussion of its Comparative Frequency in America.—Louis Faugères Bishop, M.D., read the paper of the evening (see p. 454).

In discussing the subject, Dr. William H. Draper said that the subject had occupied his mind for a number of years. He thought the nervous theory of Cullom was incomplete, but it was important to consider it, for gout presented in many ways the symptoms of nervous diseases. Thus in its mode of attack the patient was awakened at night the same way as he was in a case of asthma, migraine, etc. The manifestations of gouty diathesis were of a nervous nature and suggested the existence of some peculiar condition of the nervous system that had something to do with the disease. Especially were these found in gouty females; one might suffer from migraine, another from acute inflammation,

etc. As to Sir Alfred Carrod's uric-acid theory he would like to say that it had been exaggerated as the essential cause. He knew from personal experience that persons might have much uric acid and not suffer from gout, and that others might have repeated attacks and not have deposits of urates. He would suggest that it was not an essential, and especially was this true of what was called irregular gout, particularly as it was found in women. The neuro-humoral theory was the natural outcome of the other theories. The individual could not be looked upon as a test-tube, and there was a tendency to exaggerate the work that was done in the chemical laboratory and to draw too largely conclusions from it. The vital forces must be taken into consideration.

A Gouty Habit.—That it was a constitutional vice was shown by its heredity, for it was just as hereditary as were form and feature. There was the curious fact that diabetes mellitus was said to be undoubtedly a gouty disease. Also that the diet which was good for the gouty patient was also good for the diabetic one.

Diet.—Dr. Draper had seen such benefit derived from animal food in cases of gout that he could not go behind the evidence, although he might not be in sympathy with all that had been claimed for this treatment. It seemed that the most likely explanation of this vice was the imperfect combustion of the carbohydrates and azotized foods. By this incomplete combustion nutrition was interfered with and compounds were formed that were not good for the system. Then, if the simple hypothesis that gout was a disease of suboxidation be true, it was evident that the dietetic question was important, for the oxygen must be sufficient for the supply of food. His experience had led him to believe that gouty patients did the best on azotized and starchy food, but they sometimes had little capacity for carbohydrates. Sometimes they had to forego the use of sweets, also fermented drinks, which sometimes caused gastric or nervous symptoms. He had seen persons who could not take starchy food, for when they did they suffered from showers of urates.

Dr. F. P. Kinnicutt said that he thought the neuro-humeral theory was the best of any that had been presented, and he also thought that there was more to be looked for than chemical causes. The neurotic symptoms were prominent, and often there was an exaltation of spirit preceding an attack of gout. He had employed piperazine and had found it quite useful. He had obtained good results from its use in cases of mild pyelitis in the presence of small calculi or irritation. There seemed no doubt that these cases in which he had used it were cases of myelitis, for they presented all the clinical signs. He therefore believed that piperazine had a distinct value in therapeutics. He remembered two children, of gouty parents, who had pyelitis, which yielded to this medicine. He believed that gout existed in America to-day to a very large extent, but perhaps more often in the irregular form than in the typical forms. He thought that it was not seen so very much in the hospitals, and so one might be led to think it was a disease that was not at all common, but it was very commonly found in private practice. He had found it most in women who were approaching the climacteric period.

Dr. Draper in a further discussion said that the paper referred to the action of the sodium alkalies upon the solubility of the biurates, and he thought it was of very great importance. Often when patients were sent to the springs they had severe attacks, and were told that it was bringing the urates out, but it was quite probable that it was only producing them. Good, pure water was the essential in the water-cure.

Dr. William H. Porter said he thought we had gone astray, especially as to the works of Sir William Roberts, and would have to come back to the neuro-humoral theory. Though the urates were present, yet there was something back of that. He believed that Dr. Roberts said that urates were not found in the blood, and that the urate of soda was made in the renal epithelial cells, which seemed to show that imperfect oxygenation was a cause. It seemed that the whole treatment resolved itself into dietetics and oxygenation.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, March 25, 1895.

Egbert H. Grandin, M.D., President, in the Chair.

Acute Localized vs. Diffuse Peritonitis in Women from a Clinical Stand-point, with Special Reference to the Question of Surgical Interference.—Dr. H. C. Coe, in some opening sentences in a paper bearing this title, questioned whether the enormous increase of medical literature did not sometimes act as a hindrance rather than a help to the practical application of the fundamental principles of medical science; whether it did not lead us to overlook more clearly defined points while seeking for those which were only possible. One result of the aggressive tendency of gynecology must strike every consultant, namely, the surgical education of the practitioner, so that in consultations it was often the latter rather than the former who suggested the advisability of operative interference. From one point of view this had produced good results, leading to the saving of life, but it had also led in many instances to fear where no fear should exist, and perhaps to interference where interference was unnecessary and proved disastrous. When we saw intelligent practitioners, when confronted with an ordinary case of pelvic suppuration, oppressed with the bugbear of impending rupture of a pyosalpinx, an accident which few specialists had seen; when we observed the apparently prevailing impression that the presence of tympanites associated with abdominal pain, rapid pulse, and elevation of the temperature necessitated the giving of a gloomy prognosis, we were led to ask whether we had improved very much upon our predecessors in practical knowledge of peritonitis. At any rate, there was still opportunity for profitable discussion.

He would pass by the characteristic symptoms presented by virulent general peritonitis, such, for example, as followed rupture of an ovarian or appendical abscess and terminated fatally in four or five days, for the question of differential diagnosis did not arise in such cases. It arose rather in those cases which ran their course in obscurity, and here a careful review of the history was all-important. Thus, the fact that the patient had had one or more previous attacks would lead to the suspicion of purely local trouble. The difficulty of distinguishihg between cases of tubal and appendical origin was well known, and even in supposed infection through the genital tract in puerperal cases a possible appendical origin must not be overlooked. But whatever might be the starting-point, it was important to establish the fact that at some time the pain and tenderness had been localized. The need of care in this regard was the greater because usually the question was obscured by narcotics. The duration of the symptoms for several days without becoming progressively worse pointed to the trouble being localized. The diagnosis became clearer in the presence of characteristic thermometric variations, sweating, etc., belonging to suppuration, but this might not be until late.

The common source of diagnostic errors in all abdominal affections was the attempt to base an opinion on any single symptom or group of symptoms which were supposed to be characteristic. Who had not observed, for instance, the classical "rapid, wiry pulse" of supposed diffuse peritonitis in the ordinary pelvic variety? Regarding the temperature, all must agree

with a modern writer that it furnished an unreliable guide, yet how often were we plunged into despair by a temperature of 104° or 105° F., and on the other hand were disposed to think all danger was over when it fell to 101° F. General abdominal pain and tenderness caused us anxiety, yet we might find its disappearance, on which we based a temporary hope, due only to an apathy which heralded death. Vomiting in a typical case of diffuse septic peritonitis was a characteristic symptom, but it was not always present until just before death, and, on the other hand, was frequently present in cases of localized peritonitis, especially when unwise feeding and medication kept the stomach in an irritable condition. Tympanites very properly caused us uneasiness, but it was no longer regarded as pathognomonic of general peritonitis, and was often excessive even in pelvic peritonitis. In the latter, it was less likely to be marked about the umbilicus or to be so persistent.

Referring to constipation, Dr. Coe said it was only after one had seen patients die of post-operative peritonitis on the seventh or eighth day after having had daily evacuations of the bowels, and others make a good recovery who did not respond to laxatives and enemata for five or six days, that he began to believe too much stress had been laid on this point. The blame lay with general surgeons.

When a persistent amelioration of all the unfavorable symptoms was noted after giving a laxative in a case in which the diagnosis between diffuse and localized peritonitis was doubtful, he had always felt justified in inferring that the latter condition was present, and in giving a favorable prognosis. If the improvement was only temporary, and there was a rapid return of the pain, vomiting, tympanites, and anxious facies, he had assumed that probably no amount of purgation would save the patient. And so with the application of cold and the administration of antipyretics, the response was more favorable in localized peritonitis and the less serious cases.

It was not, then, from the presence of any striking symptom or symptoms that one arrived at a decision in a doubtful case, but from the whole picture. To the experienced eye the look of a patient with fatal septic peritonitis was rarely misleading, yet it was not possible to describe it in words. The facies of a patient with localized peritonitis, no matter how severe the symptoms, was quite different from that of one in whom the inflammation had become general. The difference could be detected only by experience and close observation. A local examination might enable us to make the diagnosis of the pelvic origin of the trouble in some cases, but not in all, and we were compelled to judge by more general signs.

Dr. Coe referred to some experience with patients of a hysterical nature, and said it became obvious how important it was in private practice to recognize the harmless character of the condition before throwing a family into the deepest distress by hinting at the necessity of a formidable operation.

The question asked by the general practitioner, "Ought I to call in a surgeon, and if so, when?" could not be answered by hospital practice. In referring to abdominal section for acute general peritonitis, let it be understood that it was still a hospital operation—a desperate remedy for a desperate condition. In nearly all the successful cases the condition had been more or less localized, and it was in the localized condition that one found the legitimate field for operative interference. But even here it was seldom one felt justified, in private practice at least, in dealing in a radical manner with the tubal or pelvic disease during the hight of the localized peritonitis to which it had given rise. So long as one was reasonably sure that the process would not become general, he should put off operative measures until he could definitely locate a pus focus or felt sure that one existed. The vaginal route was a safe one for exploratory puncture or incision.

Peritonitis only a Symptom.—Dr. W. R. Pryor regarded peritonitis as only one of the symptoms of a certain process. This was proven by the fact that in some cases it was general and fatal, while in others it remained local because it had led to shutting off the real source of the trouble. Looking, then, at peritonitis as merely an exponent of some certain form of infection which had to be met, not by attacking the peritonitis, but by attacking the cause, we could devise some reasonable method of treatment. The difference between the effect of a diffuse peritonitis following the use of gauze packing and that following perforation of the appendix was due to the fact that in the former there was a mechanical or chemical irritation, while in the latter there was infection. Regarding the route of attack in peritonitis in which there was hope of removing the local cause, Dr. Pryor thought our improved methods and instruments should make it safe to do cœliotomy instead of working blindly in the vagina. He did not believe in a secondary operation for peritonitis following cœliotomy, for the reason that it only resulted in further depriving the patient of her vitality.

Dr. James P. Tuttle doubted very much whether we were in a position to go so far as to say that there was no such thing as idiopathic peritonitis; that peritonitis was always due to some such local condition as appendicitis, ovarian abscess, etc., and that therefore it was always a surgical disease. He related a case showing the danger of assuming that constipation and tympanites were necessarily due to the peritonitis, and on that assumption giving enemata and purgatives. In the case related there was obstruction from a constricting band.

Dr. W. E. Porter thought the most important question which confronted us in peritonitis was whether it should be treated medically or surgically. As a rule too much time was lost with medical treatment before the case was turned over to the surgeon for him to obtain the best results. He thought that in septic peritonitis the pulse was a better guide to the severity and character of the disease than the temperature. One should be prepared to make an immediate microscopical examination of pus found in order to judge of its virulence.

Dr. Ralph Waldo thought the physical signs revealed by palpation afforded a better basis for diagnosis than the rational symptoms. Too much stress had been laid on the facies. He had known patients to die whose facies had been pronounced good, and others to recover whose facies had been pronounced bad.

Dr. R. A. Murray reminded the speakers that the paper had to do with diagnosis rather than treatment. How were we to tell when a peritonitis ceased to be local and became general? There were three indications: 1. Shock, for when the peritonitis ceased to be local there was always profound shock. 2. The facies; the mouth was drawn down, the features pinched, there was pallor or a pinkish, almost cyanotic hue. 3. The pulse became more tense. Further, in general peritonitis the pain was diffuse, not localized. Then there were, in local peritonitis, certain physical signs—tumor, etc.

Dr. Skinner, delegate from the Queens County Medical Society, had observed that where a case of peritonitis was about to prove fatal, the temperature fell to subnormal rather than rose. Referring incidentally to appendicitis, he said there was not always absence of some foreign body, for he had himself, when a student years ago, seen one man die after eating of beans, and a bean was found in the appendix, and in another instance the appendix contained an apple seed.

The Surgical Technique of Craniectomy; Demonstration of a New Method.—Dr. Seneca D. Powell read

a paper on this subject. In passing he might say that his experience had confirmed him in the opinion that craniectomy for microcephalus and its attendant idiotic state, if performed before the fourth year, would yield an ample reward.

The conclusions arrived at in the paper were based on fourteen cases with seventeen operations. The first was made in March, 1891, the last in March, 1895. The children ranged in age from two to thirteen years. In the first two cases he used a bone forceps, conductor's punch, and gouge; upon the remainder he used the electric saw which had been made for him by Ford, and which he demonstrated on bone. There had been one death in a child of thirteen, death having been due to the shock of the operation. The duration of the operation had been only twenty-two minutes. The other patient operated upon by the conductor's punch also suffered greatly from shock, but fortunately recovered. It had been generally supposed by surgeons that the great mortality attending this operation in the hands of most operators was due to its long duration. When, after his first operation, Dr. Powell found his hands studded with blood-blisters from the use of the instruments his thought was directed to another cause. All were familiar with the effect of an innumerable number of successive blows upon a nerve, even though the percussion were hardly perceptible at the time. For instance, the effect of riding a bicycle over cobblestones was to leave the hands numb for a time. The conductor's punch produced a series of concussions upon the meninges and brain, and the effect seemed to be exaggerated in these cases by the fact that the bones were harder and the brain pressed outward more forcibly than in the normal state.

The author had conceived the idea that the operation might be deprived of much of its risk if it could be performed in a manner to overcome this series of concussions, and consequently he had had the electric saw constructed. It differed from the one made by the late Dr. M. Josiah Roberts some years ago in that the motor giving the power was not combined with the saw; thus the saw was much lighter and could be handled with the ease of a dentist's drill. The membranes of the brain were protected by a thin strip of metal introduced beneath the skull through trephine openings. Prior to the operation the skull was shaved, and hemorrhage was obviated by a bandage encircling the skull horizontally three or four times and a strip of rubber adhesive plaster drawn tightly over it. There had been practically no loss of blood except that retained in the flap by the bandage. The scalp having been turned back, the trephine openings made, the latter were joined by two courses with the saw, removing a strip about half an inch broad and perhaps five inches long. To avoid making the incision which was parallel with the longitudinal sinus so long as to encroach on the frontal bone, he lengthened it by carrying its extremities down a distance over the side of the head. The edges were afterward made quite smooth with the bone-scoop. The scalp was then united and the bandage removed, and a dressing applied, which was left on a week or ten days. Shock from the operation with the trephine and electric saw seemed absent, and the patients had done as well apparently as if they had only been under ether. They left the bed the fifth or sixth day. It would be observed that no death had attended its use, which was on twelve patients.

Craniectomy in Itself Useless.—Dr. C. L. Dana expressed surprise and gratification at Dr. Powell's low mortality from craniectomy. He believed that at one time it had been so fatal here that it had been practically abandoned, without regard to the question of ultimate benefit. So far as he knew, no surgeon in the world had had as great success as Dr. Powell.

Dr. Dana had formed some rather positive opinions with regard to the therapeutic value of the operation. In the first place, we must abandon the idea entirely that craniectomy was intended for microcephalus, serving to make room for the brain to grow in. While there were cases of microcephalus, it was not because of premature ossification of the bones, but rather because of deficient brain development. To remove a strip of bone which should become replaced by cicatrix would hardly help the growth of the brain. But a large number of cases in which the operation was performed were not cases of microcephalus, but of lobar atrophies, cysts, etc. It seemed to him absurd to take away a piece of bone with the hope that it would assist the growth of a piece of sclerotic and atrophied brain tissue.

The ground had been well debated by Bourneville, of Paris, who had collected a large number of cases, and apparently shown that the operation was without practical use. On this point, however, Dr. Dana differed from Bourneville, for he had himself seen some benefit from craniectomy, and in seeking for an explanation he had come to the conclusion that it was based on a change of education and discipline. These subjects had been pampered and spoiled. After craniectomy they were put to studying and to work with a view to mental improvement. Out of about a dozen cases of his own he had seen a great deal of good derived in at least four, and he believed the usual percentage of cases improved where the operation was considered indicated was thirty to forty out of one hundred.

Dr. Carter Cole said he had witnessed many of Dr. Powells's operations, and could testify to the perfection of the technique which had reduced the mortality almost to nil. He had been surprised and gratified, also, to observe how perfectly the bandage around the head had controlled hemorrhage, in spite of its supposed inefficiency as expressed in the books. If in the temporal fossa there was a depression, simply insert a pad at that point.

Dr. Bishop thought Dr. Dana had given the correct explanation of the benefit of craniectomy.

Dr. Leszynsky quite agreed with the last speaker that the benefit was not due to enlargement of the skull. A specimen was shown recently in which the cicatricial tissue which had formed in the space left by removal of the bone had itself made pressure upon the bone. In all cases of craniectomy witnessed by himself the patient had died with one exception, so that there had been no time to judge of ultimate benefit.

Dr. W. R. Townsend wished to know why Dr. Powell made this particular form of incision.

Dr. Powell replied that it was to avoid encroaching on the frontal bone. He believed the first case operated upon by him had been sent him by Dr. Dana with the diagnosis of microcephalus. He had conscientiously avoided operating upon cases without first receiving the sanction of a neurologist, and in fact all of his cases with one exception had been sent him by neurologists for operation, and where that was done he had regarded it simply as his duty to perform the operation without questioning its advisability.

The Income Tax.—At the request of the chairman of the Board of Censors, the counsel for the Society, Mr. Taylor, sent a written opinion concerning the income tax in relation to physicians. A physician's office, or that part of his dwelling used as an office, and not the whole house, was exempt in estimating his income.

Who are Prescribing Druggists?—Dr. Frank Van Fleet referred to the action of the Society at its last meeting, calling for the prosecution of prescribing druggists. He wished to know whether persons advertising to fit glasses for errors of refraction did not also violate the law regulating the practice of medicine. The advertisement of one firm of this kind was in the county directory, and he moved to have it expunged. By amendment the matter was referred to the comitia minora with power.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, February 1, 1895.

HENRY F. WALKER, M.D., PRESIDENT, IN THE CHAIR.

Large Chancre of the Lip.—DR. ROBERT ABBE, who was detained until late, sent a patient with the following note of the case: A very decent Swedish girl, married six weeks, had come to him for removal of a cancer of the lower lip, which her physician had been lancing and leeching without benefit. At sight he diagnosed chancre of the lip, which was verified by a faint macular rash, now scarcely visible. The large size of the lesion and its rarity in this situation were his excuses for showing the case.

DR. E. L. PARTRIDGE said he thought the lesion must be chancre, but he could feel no sublingual glandular enlargement. For several years he had attended the Skin and Venereal Out-door Department of the New York Hospital, during which time four or five cases of chancre of the lip came under his observation, and in all early involvement of the sublingual gland was quite characteristic. Regarding infection with syphilis in unusual situations, he recalled a case, reported by Dr. Bangs, of a clerk who had chancre of the tonsil, the cause of which was probably the use of the same pencil used by another clerk at his side, both of them being in the habit frequently of putting the pencil into the mouth. It was learned afterward that his fellow-clerk had syphilis.

DR. BRYANT remarked that the unusual size and sensitiveness of the chancre were probably due to the various forms of local treatment applied before Dr. Abbe had seen the patient.

Notes on Intra-venous Coagulation, with Special Reference to Thrombo-phlebitis.—DR. W. GILMAN THOMPSON read the paper. (See p. 449.)

Scurvy and Lemon-juice.—DR. VIRGIL P. GIBNEY, referring to the case mentioned in the paper in which lemon-juice had not been found necessary for the relief of scurvy of the gums, said he had had a similar experience in scurvy complicating joint troubles. A change of diet had been sufficient to cause the disappearance of the gum symptoms, without the use of lemon-juice. In talking with some friends who had seen a good deal of scurvy, he had learned that they hardly ever employed lemon-juice in the scurvy of children.

DR. PEABODY expressed his deep interest in the paper, and said he thought we were yet hardly ready to reach a definite conclusion with regard to intravenous coagulation and thrombo-phlebitis. From a clinical basis he was somewhat disposed to think that sluggishness of the circulation had something to do with it, yet it must be admitted that the seat of the changes was not always in the most distant arteries.

DR. BRYANT thought that in cases of trauma coagulation was due in some way to injury of the walls of the vessel. An illustrative case had come under his observation recently. A man, forty-two years of age, had sustained an injury of the thigh, which was followed by tenderness, hardness of the limb below the site of injury, by constitutional symptoms which led him to believe there was beginning phlebitis. On incision he found blood coagulated in the veins. He thought the criticism made in the paper, upon the application to the limb of the Esmarch bandage, a proper one. At all events, he would himself hesitate to apply it without placing some soft material beneath it.

DR. BEVERLEY ROBINSON had recently had the blood carefully examined in a case of typhoid fever complicated by the formation of a thrombus in a large vein of the lower limb, but the result was negative; the blood seemed to be in normal condition. Lately he had thought it advisable to withdraw some blood from a patient in the second stage of pneumonia, and it was noticed that it showed no tendency to coagulation. He queried whether that fact had anything to do with grippal pneumonia, which was probably the form of pneumonia this patient was suffering from. Doubtless all would be glad to learn of some therapeutic measure which would tend to prevent coagulation of the blood. Some years ago there was a belief that the ammonia salts, particularly carbonate of ammonia, had this tendency. Dr. Robinson did not know whether there was any real basis for this belief, yet he was inclined to give the carbonate of ammonia to patients suffering from pneumonia or typhoid fever, and seeming to be in danger of death from coagulation of the blood, more particularly in the heart. He had thought of this drug to-day in a case of amputation of the shoulder in a person who had been run over by a locomotive. The condition was such that they dared not remove the patient from the operating-table for four or five hours, and stimulants were constantly used. Suddenly there came considerable difficulty of breathing, Dr. Robinson thought of heart coagulum and of giving carbonate of ammonia, but refrained from interference with the surgeon's course. He would ask Dr. Thompson whether there was any particular drug which he would use under similar circumstances aside from ordinary stimulants.

DR. THOMPSON replied that before Dr. Robinson's arrival he had spoken of the influence of salts in preventing coagulation outside the body, but when given by the stomach they proved ineffectual. For a fuller statement of the case, see the paper.

DR. PEABODY remarked that Bartholow recommended the ammonia salts, not to prevent coagulation, but to dissolve a clot which might have formed in the heart. He believed there was no experimental proof of the efficacy of the method.

DR. THOMPSON said there were many salts which when added to the blood in large amount would prevent coagulation, but added in small amount they would favor it. It was practically impossible to use them in quantities sufficient to be of value.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

INFLUENZA—EXTENSION TO PROVINCES—MORTALITY—TREATMENT—VACCINATION COMMISSION—MR. TOM SMITH—A NEW DANGER DISCOVERED IN FROST—NERVOUS AFFECTIONS—SYPHILIS—DEBATE AT MEDICO-CHIRURGICAL SOCIETY.

LONDON, March 23, 1895.

INFLUENZA is still with us, but the improvement I anticipated last week is shown to exist in the week's returns of deaths. From 473, the highest weekly mortality in London, as stated in my last letter, the deaths fell during last week to 349. But even this number is a record, for it is higher than the highest in the last two epidemics. The mortality among the aged was, of course, most noticeable, 186 of the deaths being those of persons over sixty, and 47 had reached eighty. The deaths from all diseases of the respiratory organs fell from 1,366 to 1,031, but the last figure exceeds our corrected average by more than 500. The epidemic has been general throughout the country, but some towns have suffered excessively. Our London death-rate was 41.8 per 1,000, and Brighton showed no less than 48. Part of the last number is attributed to the influx of persons hoping by a visit to the sea to escape the disease, but who carried the infection with them.

Of course, the doctors have been affected in large numbers. All seem to have been very busy, and some

have stuck to their work after they ought to have been in bed. The consequences in not a few cases have been far more serious than if they had adopted the treatment they enjoined on their patients.

Nurses also have been in great request, and the demand could not at one time be supplied. In one case in which I was concerned, the patients sent twelve telegrams before procuring a nurse.

The treatment of influenza has naturally occupied much attention, and drugs, new and old, are advocated by enthusiasts. The general feeling of therapeutists is, however, to avoid too active treatment, and rely upon rest in bed in an even temperature. Afterward, the intense depression often called weakness leads many to sanction the free use of alcohol. Probably much mischief has been caused by this. More cautious men find small doses of quinine with strychnine a great help, and prefer it to wine or other form of alcohol.

The Royal Commission on Vaccination reassembled on Wednesday, but did nothing except pass a resolution regretting Sir W. Savory's death. As they had not met for five months, they cannot be accused of haste. They are more likely to be pointed to as exemplifying the practice of "how not to do it."

Mr. Thomas Smith, surgeon to St. Bartholomew's Hospital and a favorite teacher, has been appointed to succeed Sir W. Savory as surgeon extraordinary to the Queen. Barts still is in the front in court favor.

We are now enjoying genial spring weather, so may perhaps bear with more equanimity than during the frost the official statement that the cold had a pernicious influence on our water. When we could scarcely get any water to cook with, few people troubled about the great water question except to execrate the companies and demand the forfeiture of their monopoly. The present revelation as to the quality is calculated to create a scare. The frost prevented the filters working—that is the pith of the Registrar-General's figures. Water which in December contained 6 microbes per cubic centimetre, in February had 286. The increase in other cases was still more remarkable, *e.g.*, from 48 to 4,944, and from 50 to 5,200. In another case the number rose to 6,260, when unfiltered Thames water had only 720. How the frost makes the filtration such an aggravation of the impurity it may not be easy to determine, but obviously the subject demands immediate attention in the interest of the community.

The discussion on the nervous affections of syphilis at the Medico-Chirurgical Society, which extended over two evenings and drew forth some eminent speakers, seems to have drawn attention to the fact that these complications may occur early. This has been a familiar fact to the few for a long time, but it would appear that many, if not the majority, regarded nervous complications as only occurring late. In some cases objection has been taken to a diagnosis of syphilis, on the ground that the secondary stage was too early for the nervous affection, and yet some of us have been well aware for many years that this notion was an error. The debate will have done good if only it familiarize the profession with the fact that nervous affections may occur in the early stage of syphilis. In fact, the acute nervous complications are most frequently met in the secondary period, while the more chronic affections are more likely to begin in the tertiary stage. This was taught long ago by Erb, and ought by this time to have become generally known.

Physicians in Evening Dress.—A correspondent of one of the daily papers expresses his indignation because some of the physicians "in the 400" make it a practice to wear evening dress after six o'clock in the evening. He doesn't say how he would like to see them attired, but he could hardly expect them to don pajamas at that early hour.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 6, 1895.

	Cases.	Deaths.
Tuberculosis	182	87
Typhoid fever	4	1
Scarlet fever	128	23
Cerebro-spinal meningitis	2	2
Measles	189	16
Diphtheria	233	34

The Death of the Czar caused an advance in the price of benzoin, a gum that is largely used as an ingredient of the incense used in the ceremonies of the Greek Church.

The Oyster-typhoid Fever Scare in England is said to have ruined the sale of the bivalve this winter. As oysters cost about eight cents apiece in that afflicted country, there is not much danger to the ordinary individual from this source.

The University of Naples has been closed by order of the Italian Government, because of continuous rioting among the students, who objected to some reforms in the curriculum.

Catholics in England have been dispensed from fasting during Lent on account of the prevalence of influenza.

BOOKS RECEIVED.

THE PHYSICIAN'S VADE MECUM. Being a Handbook of Medical and Surgical Reference, with other useful Information and Tables. By Sebastian J. Wimmer, M.A., M.D. With additions by Frank S. Parsons, M.D. 16mo, 483 pages. Price, $1.00. Published by The Medical Publishing Co., Philadelphia, Pa.

PATHOGENETIC MATERIA MEDICA, BASED UPON DRS. HUGHES AND DAKE'S CYCLOPÆDIA OF DRUG PATHOGENESY. By the Medical Investigation Club of Baltimore, Md. 8vo, 347 pages. Price, $2.00, net; $2.17 by mail. Publishers, Boericke & Tafel, Philadelphia. Pa.

THE MEDICAL ANNUAL AND PRACTITIONER'S INDEX. By various editors. 8vo, 751 pages. Thirteenth year. Illustrated. Published by John Wright & Co., London, England. Price, 7s. 6d.

THE EVOLUTION OF THE DISEASES OF WOMEN. By W. Balls-Headley, M.D. 8vo, 375 pages. Illustrated. Published by Smith, Elder & Co., London, England. Price, 16s.

DEGENERATION. By Max Nordau. 8vo, 560 pages. Published by D. Appleton & Co., New York City. Price, $3.50.

ECTOPIC PREGNANCY. By J. Clarence Webster, M.D. 8vo, 300 pages. Illustrated. Published by Young J. Pentland, Edinburgh and London.

A MANUAL OF BANDAGING. Adapted for Self-instruction. By Dr. C. Henri Leonard. 8vo, 159 pages. Illustrated. Published by the Illustrated Medical Journal Co., Detroit, Mich.

THE ELEMENTS OF PATHOLOGICAL HISTOLOGY. With Special Reference to Practical Methods. By Dr. Anton Weichselbaum. Translated by Dr. W. R. Dawson. 8vo, 475 pages. Illustrated. Published by Longmans, Green & Co., London, England. Price, $7.50.

MANUAL OF CHEMISTRY. By Dr. W. Simon. Fifth edition, thoroughly revised. 8vo, 502 pages. Illustrated. Published by Lea Brothers & Co., Philadelphia, Pa.

A COURSE OF ELEMENTARY PRACTICAL BACTERIOLOGY, including Bacteriological Analysis and Chemistry. By Dr. A. A. Kanthack and J. H. Drysdale, M.B., M.R.C.P. 12mo, 181 pages. Illustrated. Published by Macmillan & Co., New York City. Price, $1.10.

SUGGESTIVE THERAPEUTICS IN PSYCHOPATHIA SEXUALIS; with Especial Reference to Contrary Sexual Instinct. By Dr. A. Von Schrenck-Notzing (Munich, Germany). Translation by Charles Gilbert Chaddock, M.D. One volume, royal octavo, 325 pages. Price, cloth, $2.50 net; sheep, $3.50 net. Subscription. The F. A. Davis Co., Philadelphia, Pa.

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Original Articles.

SOME EXPERIENCES IN THE PRODUCTION AND USE OF DIPHTHERIA ANTITOXIN.

BY HERMANN M. BIGGS, M.D.,

PATHOLOGIST AND DIRECTOR OF THE BACTERIOLOGICAL LABORATORIES OF THE HEALTH DEPARTMENT OF NEW YORK CITY.

THE principles underlying the blood-serum therapy had been fully established so long ago as 1892 through the researches of Behring, Kitasato, Ehrlich, Roux, and others, but they were not reduced to a practical form, so that the method was available for the treatment of disease until 1894.

During the interval, Behring, Ehrlich, Roux, and others, together with Aronson, were diligently seeking to make this method available for the treatment of diphtheria.

Early in 1894, a small quantity of antitoxin produced by Aronson was placed at the disposal of the Health Department for experimental purposes, but the observations made with it were not very satisfactory.

In June, 1894, it was my privilege to watch the work being done in the Institute for Infectious Diseases in Berlin, to follow carefully the production of antitoxin there, and to obtain from conversation the personal impressions as to its value of the numerous staff of distinguished medical men connected with the Institute.

I found then that there was no shadow of doubt in the mind of any of these observers as to the specific value of antitoxin in the treatment of diphtheria. At this time about four hundred cases had been treated with serum produced in the Institute under the direction of Behring, Ehrlich, Wasserman, and Kossel. Exceedingly favorable results had been obtained in this series of cases. Other cases in Berlin had been treated by Aronson, or with the serum produced by Aronson, and a still larger number by Roux in Paris.

At this time, and for some months later, very wide differences of opinion existed between Behring, Aronson, and Roux, as to the best methods for the production of immunity in animals and as to the kind of animals best suited for the purpose. While horses, cows, sheep, goats, and dogs were all being employed at the Institute for Infectious Diseases, still the belief at that time was that goats possessed many advantages over other species of animals. Behring believed that the more susceptible any species of animals was to the poison of diphtheria, the more highly could they be immunized and the more valuable was the serum which they produced.

Goats are extremely susceptible to the diphtheria poison, are difficult to immunize, but, when thoroughly immunized, produce a serum of high grade.

The remarkable results which Roux had obtained were not generally known until after the International Congress held in Buda-Pesth in September, and it was not until after the contents of his paper were widely published that the new treatment of diphtheria began to attract almost universal attention.

During my stay in Berlin, I requested by letter Dr. William H. Park, assistant director of the Bacteriological Laboratory of the Health Department, to commence the growth of cultures of the diphtheria bacilli for the production of toxins, as at that time it was thought necessary to grow cultures for six or eight weeks, in order to produce toxins active enough for the inoculations. This was done, so that, upon my return in August, the process of immunization of animals might be immediately begun.

No little difficulty was experienced in obtaining sufficiently virulent cultures of the diphtheria bacillus, and still more difficulty was found in obtaining solutions of the toxins of adequate strength, so that finally the inoculation of animals under the supervision of the Health Department was not begun until early in October, 1894.

At first two goats, and then two sheep, three dogs, and a cow were inoculated, and some days later the inoculation of horses was begun. The number of horses was rapidly increased, and by the middle of December thirty-five or forty horses were under treatment.

After the publication of Roux's paper, such favorable results were reported as having been obtained with horses, that the inoculation of the other animals was soon suspended.

During all the time that the work was being done by the Health Department, Dr. T. Mitchell Prudden, consulting physician to the Department in the Division of Pathology, Bacteriology, and Disinfection, has been in constant communication with the physicians engaged in the work, and has assisted it in every way. A number of horses have also been treated under his personal direction by Dr. C. B. Fitzpatrick, and it was one of these horses whose serum was first tested as to its antitoxin value. The serum proved to have an immunizing power of something more than one in fifty thousand, and as the animal was otherwise in rather a poor physical condition, Dr. Prudden determined to destroy it in order that as large an amount as possible of serum might be immediately at disposal, as at this time the imported serum could be had only in the very smallest quantity.

Serum from this horse was tested and bottled to the amount of four litres or more, and was very generously placed at the disposal of the Health Department by Dr. Prudden, and employed under the supervision of the Health Department for the treatment of diphtheria both in the Willard Parker Hospital and among the poor outside the hospital. In behalf of the Department, I desire to express the very great obligations which the Department and its representatives owe to Dr. Prudden and to the Pathological Department of Columbia College, of which he is the director, for the great assistance which has been afforded in this work.

The serum from other horses was not tested for several weeks after the first one, so large an amount having been obtained from it. As the treatment had been continued for so short a period it was deemed wiser, as long as this serum was at the disposal of the Department, to postpone the testing of other horses until it had been exhausted.

The first serum was put in use about January 1st, and since that time the amount of serum at our disposal has rapidly increased in quantity and improved in quality.

The assistance afforded by the Executive Committee of the *New York Herald* Antitoxin Fund has very greatly facilitated the work of the Health Department, and has made the production of the serum in larger

quantity and more rapidly than would otherwise have been possible.

The cases of diphtheria treated with antitoxin under the supervision of the Health Department comprise two series: the first, those treated in the Willard Parker Hospital, and the second, those treated outside of the hospital, chiefly among the poor in the tenement-house districts, by Health Department inspectors, detailed from the division of Bacteriology for this purpose.

The second series includes those cases treated by Sanitary Inspectors Drs. Walter F. Bensel, John H. Huddleston, Henry F. Koester, H. J. Ennis, William J. Pulley, and a few which were treated by Dr. William H. Park and the writer. There were 255 of these cases, with 40 deaths, a mortality of 15.69 per cent. Of these 50 are recorded as having been mild, 76 of moderate severity, 96 severe, and 42 severe and septic. Of 252 cases noted, in 21 the larynx was alone involved; in 116 the pharynx, or tonsils, or both, were involved; in 57 the pharynx and nares were involved; in 41 the larynx and pharynx were involved, and in 17 the larynx, pharynx, and nares were all involved. One hundred and seventy-three cases were five years of age or under, and among these 33 deaths occurred, a mortality of 19.07 per cent.; 82 cases were over five years of age, and among these 7 deaths occurred, a mortality of 8.53 per cent. On the first day of the disease 30 cases were treated; deaths, 2; mortality, 6.66 per cent. On the second day 77 cases were treated; deaths, 7; mortality, 9.09 per cent. On the third day 67 cases were treated; deaths, 11; mortality, 16.41 per cent. On the fourth day 31 cases were treated; deaths, 7; mortality, 22.60 per cent. On the fifth day, or later, 46 cases were treated; deaths, 13; mortality, 28.25 per cent.

Of the 40 deaths occurring in the whole series 15 took place in less than twelve hours after the serum was administered. These cases were hopeless, and most of them were moribund at the time of the injection. They were injected by the inspectors, for the most part under protest, because the physicians in attendance or the friends of the patients insisted that antitoxin should be administered. These may fairly be excluded from consideration in judging of the results of the new treatment, as death occurred before sufficient time had elapsed for the serum to produce its effect. Deducting them, we have 240 cases with 25 deaths, or a mortality of 10.4 per cent.

Among the cases treated on the first day of the disease two deaths occurred. The first death occurred in a child a little over two years old, suffering with very severe laryngeal diphtheria. This case was injected and intubated within the first twenty-four hours of the illness; death was only delayed by the administration of the antitoxin and took place on the tenth day from broncho-pneumonia. Dr. Bensel, who treated this case, says: "I feel absolutely certain that death would have taken place in this case within the first forty-eight or seventy-two hours of the disease if antitoxin had not been administered."

The second death was also the result of severe laryngeal diphtheria with stenosis; it occurred in a child thirteen months old. The child was intubated, and died of stenosis on the third day after the removal of the tube.

Of 77 cases treated on the second day 7 died, a mortality of 9.09 per cent. Three of the fatal cases were moribund at the time of injection and died in less than twelve hours.

Deducting these, there remain 74 cases and 4 deaths, a mortality of 5.04 per cent.

Of 67 cases treated on the third day 11 died, a mortality of 16.41 per cent. All of the fatal cases in this group, with one exception, had laryngeal diphtheria, or laryngeal and pharyngeal.

In 4 of the fatal cases the patients were moribund when antitoxin was injected; 1 died an hour after injection; 1 four hours after; 1 was complicated with scarlet fever and septic poisoning, was pulseless when injected and died a few hours later; and 1 was suffering from severe laryngeal stenosis and broncho-pneumonia, was not intubated, and died from unrelieved stenosis, with high temperature, a few hours after the injection.

In one case treatment was discontinued for four days because of the objection of friends, although decided improvement had followed the first injection. It was then resumed, but death from cardiac paralysis occurred later.

These 5 cases may be fairly excluded from consideration. We then have 62 cases treated on the third day, with 6 deaths, or a mortality of 9.68 per cent.

Of 31 cases treated on the fourth day 7 died, a mortality of 22.06 per cent. Six of the fatal cases suffered from laryngeal diphtheria, and one from naso-pharyngeal. Three of these were moribund when injected and died within less than twelve hours; one of the remaining seven had been intubated; the child had greatly improved, and on the ninth day the tube was removed; the child died suddenly from stenosis one-half hour later, after the physician in attendance had left.

Excluding the 3 moribund cases from this group, there remain 28 cases, with 4 deaths, a mortality of 14.28 per cent.

It does not seem desirable that any special analysis should be made of the cases which were treated on the fifth day or later, as all of the evidence goes to show that, under most circumstances, only moderate benefit can at best be obtained from the use of antitoxin in such cases, and although, occasionally, striking results follow the administration of antitoxin, even late in the disease, yet this result must be considered as exceptional.

If we consider again the whole series, after deducting those which were treated on the fifth day or later, we have 209 cases, with 27 deaths. Of the 27 fatal cases death occurred in twelve hours from the time of injection in 12. Deducting these and there remain 197 cases of diphtheria treated before the fifth day, with 15 deaths, a mortality of 7.79 per cent. Of the 197 cases in this group 126 were five years of age or under, and of these 11 died, a mortality of 8.72 per cent.

In judging of the results obtained in this series, it must be kept in mind that almost all occurred among very poor people in the tenement-house districts, where, in many instances, the care was not of the best, and where often but little in the way of other treatment was employed. With the exception of possibly a half dozen, the diagnosis was established in every case by the demonstration of the presence of the diphtheria bacilli in the throat, so that there can be no doubt as to the nature of the disease which was being treated.

Cases Treated in the Willard Parker Hospital.—I am indebted to Dr. W. L. Somerset for the data regarding cases treated in the hospital. Far less favorable results were obtained in these cases than in those treated outside. Hospital cases are, in general, severe; usually do not come under observation until relatively late in the course of the disease, and often then are suffering from serious complications.

From January 1st to date there were 164 cases of diphtheria in the hospital treated with antitoxin, with 45 deaths, a mortality of 27.4 per cent. During the first three months of 1894, 146 cases were treated, with 47 deaths, a mortality of 32.1 per cent. During January, 1895, however, the antitoxin was weak. From February 1st serum equal to Behring's No. 1, or better, was at command. After this time 115 cases were treated, with 31 deaths, a mortality of 26.9 per cent. Excluding 2 cases that died within twelve hours after the administration of the serum, we have 113 cases, with 29 deaths, a mortality of 25.6 per cent.

Of the 115 cases, in 44 the larynx was involved, and in 71 the pharynx, or the pharynx and nares.

In the pharyngeal and nasal cases there were 10

deaths, or a mortality of 14.08 per cent. In 1894 (during the first quarter) there were 104 pharyngeal and nasal cases, with 25 deaths, or a mortality of 24.03 per cent. Of the 44 laryngeal cases 21 died, a mortality of 47.7 per cent. Twenty-eight of the 44 cases were intubated, and of these 16 died, or a mortality of 57.1 per cent. Excluding from these 28 cases 9 (of which 7 died) which were treated with antitoxin on the fifth day or later, and there remain 19 cases of laryngeal diphtheria with intubation, and 9 deaths, or a mortality of 47.3 per cent.

In 1894 16 cases, *all included*, were intubated, with 13 deaths, a mortality of 81 per cent.

Sixteen of the laryngeal cases were not intubated, and of these 5 died. If we exclude from this class the cases treated on the fifth day or later, we have 11 cases, with 3 deaths, or a mortality of 27.27 per cent. In 1894, during the first three months, there were 26 laryngeal cases which were not intubated, and of these 9 died, a mortality of 34.61 per cent.

During the period referred to in 1895, all cases of *diphtheria* admitted to the hospital were treated with antitoxin, and are included in this list. Cases in which the diphtheria bacilli were not found were not included.

Notes on Some of the Fatal Cases.—Fatal cases injected on the second day of the disease:

CASE I.—Katie J——, two years of age, admitted with mild tonsillar and pharyngeal diphtheria and marked general bronchitis. Death occurred thirty days after admission from extensive broncho-pneumonia. The autopsy also showed general miliary tuberculosis.

CASE II.—Meyer A——, aged seventeen months, admitted with diphtheria bacilli, and no visible membrane in throat. Right eye showed membrane on lids and suspicious bacilli. Eye made good recovery. Died thirty-two days after admission with broncho-pneumonia. Child ran normal temperature two weeks previous to the onset of the pneumonia.

The autopsy showed lobar pneumonia involving the right upper and middle lobe.

Fatal cases injected on the third day of the disease:

CASE I.—S. D——, eighteen months of age; case admitted with extensive pulmonary œdema and marked stenosis; was then cyanotic, unconscious, and pulse could not be found. Intubated at once. Artificial respiration. Consciousness regained. Color improved, but the lungs continued full of fluid, and the child died in twenty-four hours. Membrane visible on left tonsil only.

CASE II.—Becky C——, two and one-half years of age, admitted with severe stenosis. She was immediately intubated, and did well for eight days, but then developed broncho-pneumonia, and died twelve days after admission. Autopsy showed extensive broncho-pneumonia.

CASE III.—Martin Jacob S——, two and a half years of age, admitted with severe stenosis and considerable tonsillar and pharyngeal membrane. Nose partially obstructed. Cervical adenitis. Broncho-pneumonia. Lived forty-eight hours after admission. Was intubated and tracheotomized. Considerable membrane coughed up through tracheotomy tube.

CASE IV.—Sarah L——, two years of age, admitted with slight tonsillar deposit and slight stenosis, prolapse of the rectum, and marasmus. Probable broncho-pneumonia. Lived thirty-two days. Temperature 99° to 101° F.; respiration, 24 to 40. Coarse râles, roughened breathing sounds persisted over both sides of chest behind. Throat clear from membrane in three days. Croup did not persist.

CASE V.—Florence H——, eight months of age, admitted with mild tonsillar diphtheria and slight stenosis. Sixteen days after admission a cervical abscess was opened. Twenty-eight days after admission, there was a purulent discharge from both ears. Temperature went up after the ears began to discharge. The child became restless, cried constantly, and refused nourishment. Death occurred seven days after rupture of the otitis, thirty-two days after disappearance of membrane, and twenty-days after disappearance of diphtheria bacilli from pharynx.

CASE VI.—Elsie G——, two years of age, admitted with well-marked tonsillar and pharyngeal deposit and stenosis. Intubated; stenosis relieved; temperature, 106° F.; respiration, 50. No physical signs. Appearance of membrane in pharynx would indicate that case was more than three days sick. Died the third day.

Two other fatal cases died in less than twelve hours after the administration of antitoxin. These cases were moribund on admission.

One other case showed at the autopsy a general miliary tuberculosis, and three showed pulmonary tuberculosis with more or less broncho-pneumonia.

Two other cases had scarlet fever and died some time after removal to North Brothers Island.

In a number of other fatal cases death occurred some days after the disappearance of the membrane, and the autopsy revealed a broncho-pneumonia.

In speaking in general of the value and results of the treatment I wish to refer to some extracts from a report made to me by Dr. Walter F. Bensal. He says:

"The total number of cases treated by me was 82. Of these 70 recovered, 12 died, making a mortality for all ages of about fifteen per cent. Sixty of these showed immediate and marked improvement after the administration of the serum. In 6 there was marked improvement, which was, however, developed very slowly. It may or may not have been due to the antitoxin. In the remaining 16 no benefit could be attributed to the antitoxin directly. In 34 of the 82 cases the prognosis was exceptionally bad, making an estimated probable mortality of forty-one per cent. without antitoxin, which contrasts very favorably with the actual mortality of fifteen per cent.

"In 12 cases treatment was begun on the first day, and all showed an immediate improvement. In 25 cases treatment was begun on the second day of the disease, and all but 3 were promptly benefited. In 17 cases treatment was begun on the third day, with an immediate result in 13. Of 11 treated for the first time on the fourth day only 7 were benefited. For the fifth day only 4 out of 8, for the sixth day only 1 out of 3, and for the seventh day only 1 out of 4 had an immediate benefit from the antitoxin. Of the 2 cases treated for the first time on the tenth day no direct result was obtained. This shows how important it is to employ antitoxin early, as few or no striking results occur when the fifth day of the disease has passed before beginning treatment.

"In my experience the effect of the antitoxin on the false membrane has almost always been very marked. Even when little or no improvement in the general condition has resulted the advance of the membrane has been checked and a marked disposition to thin out and disappear has been developed.

"**After-effects of Antitoxin.**—In 82 cases of true diphtheria 33 remained absolutely free from any annoying after-effects. In 22 of the remainder urticaria was developed, varying in degree and extent. In some it was limited to the limb or limbs injected, and only caused slight annoyance for two or three days. In other cases it extended from head to foot, the irritation being very intense and lasting a week or more. It made its appearance from three to ten days after the injection.

"In 8 cases an erythema was developed, usually more or less confined to the locality of the injection, and making its appearance two or three days afterward. This was accompanied by more or less urticaria.

"One case of diphtheria (a rather mild form, but receiving a fairly large amount of serum in two doses) developed a general urticaria eight days after the second injection, the itching of which was almost unendurable. This lasted four days, but had hardly subsided before the patient, a woman, began to develop

pains, neuralgic in character, in the lower limbs, with some slight swelling of both knees. This condition grew worse from day to day, and soon all the joints of the lower extremities were swollen, painful, and stiffened, with a very marked hyperæsthesia of the skin. Loss of power was complete, so that she was unable to walk or even to stand. On the third day she also began to lose power in her upper extremities, so that she was unable to move in bed without assistance. The last muscles affected were those of the jaw, preventing mastication. On the eighth day the patient had several profuse hemorrhages from the nose, which recurred, but not so profusely, from time to time during the next week. About this time she began to regain power in her limbs, and in a few days was able to stand and then to walk with difficulty. It is now thirty-eight days since her attack of diphtheria, and she is still unable to walk more than a few blocks at a time. The lymphatic glands in her neck were more swollen and tender twenty-six days after her recovery from diphtheria than at any other time. They are still much swollen but no longer tender. A trace of albumin was found in the urine during the development of the complications.

"In 7 cases of false diphtheria, injected while awaiting the result of the culture, only 2 were exempt from after-effects. These after-effects were, in the main, much the same as in the cases of true diphtheria just mentioned, but were developed in a larger proportion, and were more marked in degree. One patient developed the same trouble as the case just described, but to a much more serious extent in every way. In addition she had several alarming hemorrhages from the uterus, and a temperature ranging from 100° to 104° F. Although the antitoxin was given on February 5th, she has not yet left her bed (March 10th). About two weeks ago she developed an acute synovitis of the knees, with fluid in both joints and in the pericardial and in one pleural cavity. I am hardly prepared to say, however, that all her trouble has come from the antitoxin." It should be said that in these cases large doses of a weak serum were employed.

In fatal cases treated by antitoxin no new anatomical lesions have been found. There is no positive evidence as yet to show that antitoxin in any case has produced or hastened death, although it may apparently, in rare instances, produce serious complications.

It is, however, comparatively common to have characteristic eruptions follow the use of this remedy, and sometimes apparently more serious complications, as described. The frequency of the rashes varies greatly, but they appear to be more common when antitoxin is administered in fairly large doses in mild cases. The eruption may take the form of an urticaria, or may be scarlatiniform or morbiliform in character. It may be local around the point of injection or general. The time of appearance varies from five to twenty days after the injection of serum, the average being about eight or ten days. It is usually accompanied by intense itching; there may or may not be elevation of temperature. Its duration varies from a few hours to four or five days or longer, but usually it disappears in about thirty-six or forty-eight hours.

In 129 cases treated in the Willard Parker Hospital there were rashes in 20. In 12 cases the rash was an urticaria, in 5 it was like that found in scarlatina, and in 3 it resembled measles.

In 21 out of 129 cases there was albuminuria, and in 6 there was paralysis, slight in amount. Two of the cases of albuminuria died with suppression.

The serum employed in the treatment of the cases reported here, with the exception of a few phials of Behring's and that referred to, received from Dr. Prudden, was produced under the supervision of the Health Department. It varied in strength from that first used, which contained 30 or 40 antitoxin normal units in each cubic centimetre, about one-half the strength of Behring's No. 1, to some of that last produced, which contained 300 antitoxin normal units in each cubic centimetre, equal to about twice the strength of Behring's No. 3.

The Health Department now has an abundance of high-grade serum, and is prepared to meet all demands arising from this city. It is administered under the supervision of the attending physician, free of charge among the poor of the city on application. It is also for sale when the physician prefers to purchase it and administer it himself.

It should be remembered, in judging of the results obtained in the treatment of cases of diphtheria with the diphtheria antitoxin, that the new remedy is a specific only against diphtheria toxæmia, and that it thereby increases cell-resistance, reduces inflammatory swelling, and arrests the extension of the membrane—only this. It does not restore already degenerated heart-fibres or kidney cells; it does not immediately relieve an impending asphyxiation from laryngeal stenosis, or neutralize a septic poisoning, or influence the temperature, or check the extension of a broncho-pneumonia. To be effective it must be administered early in the course of the disease, before complications have occurred or the effects of the diphtheria toxin on the tissue-cells have been produced. The earlier it is administered the more striking are the results produced and the more certain the cure. When not administered until the fifth day of the disease or later, or until a general bronchitis or broncho-pneumonia has occurred, or degeneration of the heart or kidney has been produced, or until the child is exhausted from struggling against an unrelieved stenosis, its influence for good is little or nothing, and deaths in such cases are not to be regarded as antitoxin failures.

It may be urged that no conclusion can be drawn from these results as to the value of the new treatment because diphtheria is of a mild type this year. This contention cannot be maintained, for there is no reliable evidence to this effect, and before the introduction of antitoxin in the treatment of diphtheria the mortality during the past year was as high as for the corresponding months of the previous year. During the same period, when these cases were being treated, the mortality among cases not treated with antitoxin, instead of averaging eight or ten per cent., was, judging from the Health Department reports, from twenty-five to thirty-five per cent.

While there can be no question that occasionally cases of uncomplicated diphtheria will die even when antitoxin is administered early in the course of the disease, yet in my opinion, with the curative serum at disposal, diphtheria, which has been the most fatal disease of infancy and early childhood, will be brought so completely under control, through the early administration of this remedy, that it will lose all of its terrors. How serious the complications may sometimes be we do not as yet know.

Statistics may or may not have much significance, and it may perhaps be justly said that, so far as New York is concerned, nothing decisive has as yet been shown by them as to the curative value of diphtheria antitoxin. I would add, however, that the results in individual cases are often far more convincing than the conclusions drawn from a large series of cases. All that is required to convince any sceptical observer of the efficacy of the serum is that he may watch the results in one single, severe, uncomplicated case of diphtheria, when the remedy is administered on the second or the beginning of the third day. They are sometimes most extraordinary, and seem to me to approach the miraculous more nearly than anything which has previously come under my observation in medicine.

5 West Fifty-eighth Street.

There are Twenty-five Bulgarian Women studying medicine at the Faculty of Nancy in France.

THE PREPARATION OF THE DIPHTHERIA ANTITOXIN,

And Some of the Practical Lessons learned from the Animal Experiments Performed in Testing its Value.

By WILLIAM HALLOCK PARK, M.D.,

NEW YORK.

The first step toward obtaining a supply of diphtheria toxin for the injection of the animals is to secure pure cultures of bacilli from a number of severe cases of diphtheria. The bacilli from these cultures are grown in bouillon for forty-eight hours in the incubator, and their virulence tested by injecting them into guinea-pigs. From the number tested as many as four or five of the most virulent cultures should be selected to inoculate the bouillon for making the toxin, for experience has taught that bacilli having equal virulence in guinea-pigs do not always produce the same amounts of toxin in bouillon. It has also been found that the bacilli in cultures from different cases vary greatly in the length of time the bacilli retain their full virulence. In making the original stock-cultures it is desirable to inoculate the bouillon in each of the tubes with bacilli from a number of colonies from the agar plates. The cultures thus obtained are more apt to be very virulent. The experiment of trying to increase the toxin-producing power of the bacilli by passing them through the bodies of a series of guinea-pigs has been carefully tried in the laboratory. Dr. Williams, who carried out the experiments, succeeded in considerably increasing the virulence of the bacilli from some of the cultures, and obtained in the broth in some of the tubes inoculated with these bacilli a stronger toxin than that from the broth inoculated with bacilli which had not passed through the bodies of animals. However, the strength of toxin varies so much in the bouillon in different flasks, even when made from the same culture, that we do not feel sure that the increased toxin production of the bacilli was due to this passage through the animals. The practice recommended by Roux, of inoculating the bouillon in each flask with a number of cubic centimetres of a recent and very virulent culture, has been followed as a routine practice. The flasks used for the preparation of toxin may be either of the ordinary varieties or may be arranged with tubes for the inlet and exit of air. We have found that bacilli grown in rather alkaline bouillon, in ordinary flasks loosely plugged with cotton, produce toxins about as strong, and nearly as quickly, as those grown in the bouillon to which a constant supply of moistened air has been added. Toxins, of which one-tenth of a cubic centimetre was sufficient to kill a 250-gm. guinea-pig in five days were produced in the bouillon in one-half the flasks in from two to four weeks. In some cases the toxins were twice the above strength, while in others, subjected to the same treatment, they were much weaker. When it is judged that the bouillon culture is sufficiently rich in toxin a few cubic centimetres are carefully removed with a sterilized pipette and the toxin solution thoroughly tested as to its purity and strength. If the cultures prove in the least contaminated they are, as a rule, discarded, but if merely too weak in toxin they may be replaced in the incubator for further development. If to an old bouillon culture one-half per cent. of carbolic acid is added, and the bacilli after being killed are allowed to soak in the bouillon, the amount of toxin in solution will be found for a time to gradually increase. The dead bacilli give up some of the toxin contained in their bodies to the bouillon. Before being injected into the horses the toxins are filtered.

Selection of the Horses.—For this purpose Dr. Gill, of the New York Veterinary College, procured, during the months of November and December, over forty young, perfectly sound horses. Most of these had some bad habit, such as kicking, balking, or running away, and were therefore purchased at very low prices. Before using they were all injected with mallein in order to exclude the possibility of glanders.

Since the laboratory force of the Health Department was increased, last January, I have had the help of Drs. Lambert and Fitzpatrick in the labor connected with the production of antitoxin in so many horses. These horses were purchased partly by the Health Department and partly by means of the fund raised by the *New York Herald*. The horses receive for their first injection, 2 c.c. of a toxin of which one-half a cubic centimetre would kill a 250-gm. guinea-pig, or an equivalent amount of stronger toxin. If the horses reacted sharply with fever, extensive local swelling and loss of appetite, the dose was not repeated until all these symptoms subsided. If the horses showed no reaction they were given, in two days, another dose of double the quantity. In the course of ten days the use of strong toxins was begun in all. Treated in this way the majority of the horses will be able to take 100 c.c. of strong toxin in a single dose at the end of from two to four months without showing any marked disturbance. A few horses are very sensitive and these are very difficult to accustom to the toxins. Among the forty injected seven have died.

At present there are ten horses containing sufficient antitoxin in their serum for the treatment of diphtheria, and a number giving serum of sufficient strength for purposes of immunization. One horse gives serum one-half stronger than Behring's No. 3 ; one gives serum equal to that of Behring's No. 3 ; two equal to Behring's No. 2, and five give serum equal to Behring's No. 1.

The Methods Employed in Bleeding the Horses.—The skin of the neck having been shaved and cleansed, the jugular vein is pressed upon low in the neck and caused to distend. Over the vein the skin is incised, and through this incision a sharp-pointed cannula is forced into the vein. The stream of blood is conducted, by means of a rubber and glass tube into sterilized Erlenmeyer flasks.

To me the great difference in the amount of antitoxin furnished by different horses which have received the same amount of toxin, and in the same doses, is of great interest. For instance, two horses started on November 4th had received by January 15th, 600 c.c. each of normal toxin ; at that time the antitoxin strength of the serum of the first horse was equal to that of Behring's No. 2, while the serum of horse No. 2 was only one-fifth of that strength. On March 1st the strength of the serum from the first horse had risen to double that of Behring's No. 2, while that from horse two remained only one-eighth of that strength. Both of these horses had shown a moderate elevation of temperature after each injection, and both had shown only slight general disturbances. The better horse was slightly more sensitive than the other to the toxin. Both horses seemed to suffer but little under the treatment. An interesting experiment was now tried. As you know, several of the most valuable horses abroad died from attempting to procure a very high grade of serum by the injection of very large doses of toxin. We thought it best to let well enough alone, and so gave three of the best horses during the last month only very small doses of toxin. The tests just concluded show, unfortunately, that under this treatment the amount of antitoxin has begun to diminish, so that it seems here, as elsewhere, that nothing venture nothing have.

The Testing of the Antitoxin.—At present we use entirely Behring's method. His method possesses certain great advantages over that of Roux. First, by using toxins instead of the bacilli, we have a substance which remains of constant strength. As is well known, cultures of the living bacilli vary from day to day in their virulence. The bacilli contained in two tubes taken from

the same culture may after forty-eight hours possess very different amounts of virulence. To accurately test by Roux's method a large number of guinea-pigs must be used each time as controls, and even then the test is not as delicate as that of Behring's. We have found, on the other hand, that the diphtheria toxin kept in small flasks at a rather low and even temperature keeps for months of almost exactly the same strength. After a little while we are thus able to accurately determine the amount of toxin necessary to surely kill a guinea-pig of a given weight. In the course of a very large number of experiments in testing antitoxin, we have found that, whenever in a series the amounts of antitoxin injected have been too small to protect, the guinea-pig receiving the smallest amount of antitoxin has always been the first pig to die; the one receiving the next smallest amount being always the second to die. When the results obtained have been controlled by later trials we have found them substantiated in every case.

The serum from each bleeding is always tested as to its strength in antitoxin. This is absolutely necessary, as in the course of three weeks the strength of the serum may either greatly increase or diminish, and for this change there may be no ascertainable reason.

Therapeutic Hints from the Animal Experiments.—If in a guinea-pig very virulent diphtheria bacilli are rubbed upon a portion of mucous membrane which has been excoriated or cauterized, a disease very similar to diphtheria in man is produced. For two or three days the local changes develop, and then later the constitutional ones. Death follows in from four to five days. If, however, a guinea-pig thus treated has within a short time previously been injected with diphtheria antitoxin, slight local changes only develop and the pig recovers. The same results follow if sufficient antitoxin is injected subcutaneously within the first twenty-four hours after the infection. If the antitoxin is given too late no beneficial results follow. For instance, each of ten 500-gm. guinea-pigs was injected with ten times a fatal dose of diphtheria toxin—a dose sufficient to kill within twenty-four hours. Two of them received $\frac{1}{1000}$ c.c. of antitoxin serum, an amount of antitoxin equal to one-fifth of an antitoxin unit; four others received, twelve hours after the toxin injection, respectively, seven, fifteen, and thirty times the quantity of antitoxin received by the first two; finally, twenty hours after the injection of the toxin two pigs received seven hundred and one thousand five hundred times as much antitoxin as the two pigs first mentioned. The pigs receiving the minute dose of antitoxin at the same time as the toxin showed no bad symptoms whatever, while those receiving the very large doses twelve to twenty hours after the injection of the toxin all died. The large doses given twelve hours, and the immense doses given twenty hours after infection, and four hours before the expected death, produced no curative effect, the pigs dying at almost the same time with the pigs which received no antitoxin whatever.

Mixed Infection.—The experiments of Roux with mixed infection are so interesting in this connection that I need hardly apologize for giving them here in brief.

Four rabbits were tracheotomized and then injected in the trachea with a mixture of streptococci and diphtheria bacilli. One received at the same time a subcutaneous injection of antitoxin; the second an injection of twice that quantity six hours later, and a third five times the quantity twelve hours after the infection. The fourth received no antitoxin. The first rabbit was feverish and slightly sick for two days, no diphtheria developed, and the animal completely recovered. In the second diphtheria developed, progressed, and caused death in five days; in the third the disease progressed just as rapidly as in the fourth, which had received no antitoxin. All the fatal cases showed at autopsy the lesions of broncho-pneumonia, and the cultures showed streptococci to be present in the blood.

From animal experiments, then, we have these facts: A small but sufficient amount of antitoxin will certainly prevent animals from developing the lesions of diphtheria after they have been infected with the diphtheria bacilli alone, or mixed with streptococci if the serum is given before, at the time, or shortly after, the attempted infection. If, however, the injection of antitoxin is delayed too long it will not have any appreciable effect in preventing the progress of the disease. A longer delay is possible when the infection is due to diphtheria bacilli alone than when the bacilli are combined with the streptococci. After several months the effects of the injection of the antitoxin pass away, and the animals are as susceptible as before they received the injection. Another injection gives them immunity again for a length of time.

From the results in animals we have a right to hope that antitoxin injected into human beings will protect them for days, and probably for weeks, absolutely from an attack of diphtheria. A larger amount of antitoxin should cure cases of diphtheria when the lesions are limited to superficial local changes in the pharynx or larynx. We should have less hope for any effect in cases where pneumonia or sepsis had developed, where other micro-organisms played an important rôle, or in cases treated within a few hours of probable death.

128 West Eleventh Street.

IMMUNIZATION AGAINST DIPHTHERIA WITH ANTITOXIN.

By GEORGE A. PECK, M.D.,

Resident Physician New York Infant Asylum.

Instead of entering at once into giving the results obtained from the use of antitoxin as a means of preventing the development of diphtheria, it may, perhaps be best to give a short history of the epidemic of diphtheria that has been holding sway in the Mount Vernon branch of the New York Infant Asylum for the past few months, in order that the conditions under which this remedy has been employed may be better understood and appreciated.

From May, 1892, to February 18, 1894, there was no diphtheria in the asylum—a period of one year and nine months. On the latter date, however, the disease developed in a child received into the asylum but twelve days before from the New York department of the asylum; two weeks later a second case appeared, ten days after this a third, and so on, there being a mild epidemic of nine cases in the May following, the disease then becoming endemic till September 5, 1894, when the present epidemic may be said to have actually begun. During this interval, February to September, a period of but little more than half a year, there were 22 cases of diphtheria and 15 deaths—a mortality of sixty-six per cent. The diagnosis in these cases was made by clinical and macroscopic conditions combined, and could bacteriological examinations have been made in some instances, the number would undoubtedly have been increased, with diminished per cent. of mortality, since there were a number of cases of so-called tonsillitis during this period identical with cases that have since been proven to be true diphtheria.

On September 5, 1894, 2 cases of diphtheria developed, followed by 14 other cases during that month. In October there were 32 cases; in November, 30 cases; in December 31, January 14, February 10, and March 3, giving up to date, 136 cases of diphtheria since September 5, 1894, and 158 cases since February 18, 1894.

During the early part of this epidemic the diagnosis of diphtheria was made from bacteriological examinations by the New York City Board of Health, but later it became necessary to establish a laboratory in the asylum for this particular department of bacteriology, by aid of which, results could be quickly learned and a

more extensive work could be carried on. In the latter part of October, when this was done, bacteriological examinations of the throats of healthy children revealed the fact that Loeffler bacilli were present in so many instances that in order to isolate these cases nearly half of the children of the institution were quarantined. Special attention was paid to these children with regard to checking the progress of the epidemic, but all attempts in this direction were futile.

Through the kindness of Drs. Biggs and Park of the New York City Board of Health, a quantity of Behring's antitoxin No. II. was given for use in immunizing against diphtheria. Accordingly, on December 12th, forty-two children were selected whose throats at that time contained the Loeffler bacilli, and whose ages ranged from one and a half to five years. These children were placed in one of the buildings. To one-half their number (twenty-one) was given the antitoxin, each receiving 150 units. No diphtheria developed among these children, including those who did not receive the antitoxin, for a period of one month, at the end of that time diphtheria developed in a boy four and a half years old, while convalescing from a severe pneumonia, he being one who had received 150 units of antitoxin.

In the meanwhile the epidemic was persisting, cases having developed in other portions of the institution, and the situation was becoming more serious and alarming each day. That the disease should have gained such a wide-spread hold cannot be wondered at when one considers the capacity of the wards, which ranges from twenty to thirty children; and since no building or ward has been exempt from the disease almost every child had repeatedly been exposed to infection, not only from those developing the disease, but also from those healthy children who did not develop diphtheria but whose throats contained the Loeffler bacilli.

Although the first experiment with antitoxin proved nothing, except that the period of immunity it rendered was limited, it was decided to inoculate with antitoxin all the children remaining in the institution who had not had diphtheria as soon as the remedy could be obtained. Accordingly, on January 16th and 17th, two hundred and twenty-four children were inoculated with Behring's antitoxin No. II., the quantity of antitoxin given in each varying from 100 to 200 units, according to age. An examination of the records shows that from January 4 to 14, 1895, twelve cases of diphtheria developed, nine occurring in the last five days of this period. The first case to appear among these children who were inoculated was on February 3d, two and a half weeks after the antitoxin was administered. On February 15th a second case appeared among these children, the interval in this instance being four weeks from inoculation. Preparations were then begun for a second general inoculation, should diphtheria continue to appear among these children. Before these preparations could be completed, however, five more cases had developed, one on February 22d, one on February 24th, two on February 25th, and one on February 27th.

On February 27th and 28th a second general inoculation was given, two hundred and forty-five children receiving the antitoxin, which was a product of the laboratory of the New York City Board of Health. In this instance the dose was increased by 25 units throughout, ranging from 125 to 225 units according to age. From this inoculation there was a period of complete immunity from diphtheria among these children extending over four and a half weeks, a case having developed on March 30th.

It could not be seen that antitoxin had any effect upon the Loeffler bacillus itself, since during the months of January and February the bacilli were found in so many of the children's throats it was necessary to extend the quarantine to nearly every building in the asylum, and, although no bacteriological examination of the throats was made at the time of inoculation, for want of time, yet one may be assured of the presence of the bacilli at that time, since they were found in nearly all at periods either immediately preceding or subsequent to the inoculations. That some of these bacilli were virulent is proven clinically by the cases of true diphtheria occurring in adults and children (the latter being cases of reinfection) during the periods of immunity following the first and second inoculations, and experimentally it has been proven by the New York City Board of Health in the guinea-pig.

The ill effects from the inoculations were limited to a few cases of pronounced urticaria after both general inoculations, and a few needle abscesses after the first, consequent upon haste. Constitutional symptoms with temperature, etc., were almost *nil*.

Nothing more can be said for antitoxin as an immunizing agent against diphtheria, except that the results obtained as stated cannot justly be attributed to coincidence.

RESULTS OF AUTOPSIES ON CASES DYING AFTER TREATMENT WITH DIPHTHERIA ANTITOXIN.

By GEORGE P. BIGGS, M.D.,

NEW YORK.

With so broad a field for discussion as has already been opened by the papers listened to this evening, it would be out of place for me to enter into an exhaustive consideration of the gross and microscopic lesions found after death from diphtheria, especially as the majority of those present are probably interested more in the clinical than in the pathological phases of this disease. I shall therefore confine myself to a brief review of the results of diphtheria autopsies made by myself at the Willard Parker Hospital since my appointment as assistant pathologist to the New York City Board of Health. Lack of time, necessitated by so early a report, has prevented as elaborate an analysis or as critical a study of these cases as could be desired.

Eighteen autopsies have been performed, two in the latter part of February and sixteen in March, this number representing about seventy-five per cent. of the deaths from diphtheria occurring during this time. As thorough bacteriological examinations have been made in but a small proportion of cases, my report will be only of the pathological findings, particularly those having important bearing on the clinical course of the disease. In each case gross lesions have been recorded by dictation during the performance of the autopsy, and portions of the various organs have been subsequently studied in the fresh state by making frozen sections, and later in hardened sections from Müller's fluid and alcohol.

We may class the lesions found under four heads, viz.:

I. Local lesions in the nares, pharynx, tonsils, larynx, and trachea.

II. Lesions constantly present in varying degree in the internal organs.

III. Complicating lesions not invariably present.

IV. Lesions of antecedent disease.

I. **Local Lesions.**—In 6 of the 18 cases no membrane whatever was found. Five of these had been cases of laryngeal diphtheria, and slight ulceration of the larynx, chiefly of the vocal cords, still persisted in three of them.

Membrane, when present, was comparatively thin, in most cases 1 to 2 mm. in thickness, and as a rule loosely attached to the underlying tissues except in the larynx, where it was usually quite adherent over the vocal cords at least. In two instances, however, tonsillar membrane was found very adherent, but these were in patients who received antitoxin for the first time on the sixth

and eighth days of the disease, and did not respond to treatment.

Clinically, 13 of the patients were distinctly croupy, and in one instance the disease was exclusively laryngeal in character. The autopsy records show 2 additional cases in which the larynx was involved, making a total of 15 out of 18 cases in which the larynx was invaded.

Of the 12 cases in which membrane was found at autopsy, in only 2 was the larynx free from involvement. One of these cases was three years of age, was admitted to the hospital on the seventh day of the disease, and died two days later. The autopsy showed an acute exudative nephritis and miliary tuberculosis. The second case was a child three and a half years of age, who was admitted on the fourth day in a very septic condition, with extensive gangrenous process in the throat, and who died within a few hours. Eight of the ten laryngeal cases had required intubation, but only one tracheotomy. In four the membrane was limited to the larynx, or larynx and upper trachea, and in six it covered the pharynx and tonsils also. Deep necrosis of the tonsils was found in two cases and both of these were clinically decidedly septic. Distinct enlargement of the cervical lymphatic glands usually existed, but was at times only slight.

II. Lesions Constantly Present in Other Organs.—The lesions constantly found in the internal organs were chiefly parenchymatous and fatty degenerations of the heart, liver, and kidneys. These changes have been more or less prominent features in all the cases, though the degree of degeneration has varied within wide limits. In a general way it may be stated that they were more advanced the later the cases came under treatment. Those treated early showed a mild degree of degeneration, while in three cases first receiving antitoxin on the seventh, seventh, and eighth days respectively, there was extreme fatty degeneration.

These facts point clearly to a marked influence exerted by antitoxin, when administered early, in checking and preventing these destructive changes.

III. Complicating Lesions not Invariably Found.—These were most frequent in the lungs. Bronchitis of greater or less severity existed in all cases, twelve being characterized by abundant purulent secretion with intense inflammation of the bronchial and peri-bronchial structures, and six by muco-purulent secretion, with inflammation of the bronchial mucous membrane only. Distinct membrane was found in the bronchi in only one case.

Pneumonia in some form was found at all but two autopsies, the consolidation being lobar in one instance and broncho- or lobular in the remaining fifteen. The lobar consolidation developed several days after complete recovery from diphtheria, and was the sole cause of death. Excluding this case, the percentage of broncho- or lobular pneumonias was eighty-eight, a proportion much higher than that usually given. This fact would tend to show that the improvement in mortality under the antitoxin treatment of diphtheria is due to its influence on cases not complicated by broncho-pneumonia.

Eleven of the broncho- or lobular pneumonias may be classified as extensive (involving one-third to one-half of each lower lobe and usually smaller portions of the middle and upper lobes), two as moderate in extent, and two as slight.

Acute fibrinous pleuritis complicated the case of lobar pneumonia and one case of extensive broncho-pneumonia. Thrombi were found in the small pulmonary vessels but once. The spleen was seldom enlarged or softened, but usually congested.

In two cases the kidneys, in addition to advanced parenchymatous degeneration, presented the typical lesions of acute exudative nephritis. In each instance the patient did not receive antitoxin until the seventh day of the disease, and death occurred two days later.

IV. Lesions of Antecedent Disease.—Lesions of antecedent disease which could be looked upon as important factors in explaining the fatal termination have been chiefly of a tubercular character. General miliary tuberculosis existed in two of the cases; tuberculosis of the lungs, bronchial glands, and liver, in one case; and of the lungs and bronchial glands in two others. Syphilitic cirrhosis of the liver was very marked in one instance and slight in another.

The unfavorable conditions under which treatment was begun in many of these cases may be judged from the following facts:

1. Age.—The average age of the patients was two and a half years, the oldest being five and a quarter years, and the youngest eight months. Eight were two years old or younger, 6 were between two and three years old, 2 between three and four years, 1 five years, and 1 five and a quarter years.

2. Duration of the Disease Prior to Administration of Antitoxin.—This averaged 4.4 days; 2 receiving treatment on the second day, 4 on the third, 5 on the fourth, 2 on the fifth, 2 on the sixth, 2 on the seventh, and 1 on the eighth day.

3. Location of Membrane.—As already stated, 15 were laryngeal cases; 10 requiring intubation and 1 tracheotomy.

Taking an average of all cases, death occurred seventeen days from the beginning of the disease. Excluding three which terminated fatally within twenty-four hours after admission to the hospital, the average period is extended to nineteen days from the onset of the disease.

In order to ascertain the number of apparent failures of antitoxin in the treatment of these patients, we must first exclude from the series two cases in which death was not the result of diphtheria or of any of its direct complications. One of these died of typical lobar pneumonia, which developed several days after complete recovery from diphtheria, and the other of marasmus and prolapse of the rectum three weeks after disappearance of Klebs-Loeffler bacilli from the throat. No membrane was found in either case at autopsy.

Of the sixteen cases in which the immediate cause of death was diphtheria or some of its complications, the following should, for obvious reasons, be excluded from those in which the antitoxin treatment may be considered to have failed:

1. Two cases complicated by general miliary tuberculosis, which it is fair to say would have been hopeless under any method of treatment. These patients first received antitoxin on the fourth and seventh days respectively.

2. One in which no antitoxin was given, owing to the fact that a second and fatal attack of diphtheria developed so insidiously as not to be recognized, when the patient had almost recovered from a severe broncho-pneumonia. This had complicated an attack of diphtheria occurring four weeks before.

3. Two cases, treated on the sixth day, with a serum of entirely inadequate strength.

4. Two admitted to the hospital on the fourth day of the disease, in a state of profound sepsis, and dying, one a few hours after admission and the other within twenty-four hours.

Among the 9 cases still left for consideration there are 3 in which no diphtheritic membrane was found at autopsy. Death was accounted for in 2 of these (both treated on the fourth day) by extensive broncho-pneumonia, and in the third by extensive fatty degeneration of the heart, acute exudative nephritis, and the septic condition of the patient when admitted on the seventh day of the disease.

There remain 6 cases, all with laryngeal involvement and requiring intubation, and all complicated by more or less broncho-pneumonia. In 3 of these, first treated on the third, fourth, and eighth days respectively, broncho-pneumonia was most extensive, and

amply explained the fatal termination. In the three cases remaining the broncho-pneumonia found was not sufficiently extensive to of itself explain death. The following facts, derived from the clinical histories, have a bearing on the fatal result. One was a child two and a half years of age, admitted after three days' sickness, with marked obstruction requiring immediate intubation and a little later tracheotomy. Death occurred two days later. The second case, one year of age, was admitted five days after the onset of the disease, and died in two days. The third case was aged but eight months, was admitted after five days' sickness, and died within twenty-four hours.

Although the number of autopsies reported is comparatively small, the writer feels justified in making the following deductions:

1. That antitoxin has a decided influence in loosening diphtheritic membrane, even in cases resulting fatally.

2. That it has comparatively little influence on the cases already complicated by broncho-pneumonia.

3. That it has a marked influence, when administered early, in preventing and checking parenchymatous and fatty degenerations.

5 West Fifty-eighth Street.

Clinical Department.

AN ANENCEPHALOUS MONSTER.

By R. H. PHILLIMORE, M.D.,

cookshire, p. q., canada.

At 8 o'clock in the morning I was recently summoned to attend the confinement of Mrs. ——. The patient was eighteen years of age, very anæmic, and a primipara. I found her sitting up and suffering from occasionally severe pains. Labor had commenced forty-eight hours before. An external examination revealed a uterus enormously distended—so much so that the women in attendance, much to the anguish of the husband, were firm in their conviction that triplets were at least to be expected. By palpation nothing definite in regard to the presentation could be determined, while the fœtal heart-sounds were entirely absent.

Upon making a digital examination, I found the os partially dilated and the bag of waters protruding. The membranes were extremely tough and resisted several attempts at rupture. Eventually, however, this was accomplished, and an immense quantity of amnial fluid gushed forth—literally deluging the bed, and pouring down onto the floor. Shortly after I made another digital examination, and found a hard body presenting, almost flat to the touch, while close at hand was evidently the right ear of the fœtus. The shoulder, to my surprise, appeared to be almost continuous with the head. Pains now occurred at regular intervals; but owing, as I rightly conjectured, to some strange abnormality in the formation of the head, progress was extremely slow. At noon birth was accomplished, and a female monstrosity was delivered. Fortunately, it died after giving vent to a few spasmodic attempts at breathing.

The formation of the fœtus was, I think, sufficiently curious to justify me in placing before my readers a photograph of the deformity, with a description illustrative of its peculiar features. Its weight was three pounds. The head is small and placed almost directly upon the shoulders, being separated only by a short, stumpy neck. The eyeballs are extremely prominent, the pupils opaque, and altogether bearing a strong resemblance to those of a frog. The nose is flat, while the tongue slightly protrudes, being evidently too large for the mouth to accommodate. The hair is very dark; and in its curious formation gives the monster an appearance almost bordering upon the ludicrous. From the occipital protuberance, running downward for a distance of three inches, is what, at first sight, appears to be a deep gash. It resembles a clean, straight cut, as though it had been made with a sharp knife; the lips of the wound are everted, disclosing an interval of one inch and three-quarters, apparently filled in by a raw-

looking, granulating surface. At the summit of the apparent wound is a slit running transversely and of considerable depth, possibly communicating with the cranial cavity; above is a kind of sac, consisting of a tough membrane, corrugated and movable. The whole is bridged over by a bluish skin, continuous with the integument of the body, which is remarkable for its unique pink color. In other respects the trunk and extremities are perfectly formed.

I have not, at present, been able to elicit any instructive information respecting the history of either father or mother. Whether, however, the red area on the back of the fœtus, to which I have alluded, is due to some psychical condition on the part of the mother during pregnancy, or to some error in development in early fœtal life, I must leave to the speculation of my readers. The question, however, of the development and growth of monstrosities, and the curious so-called "maternal impressions," with which children are occasionally born, are now so imperfectly understood, that any additional information, gathered either from personal observation or from the study of embryology, must necessarily be greeted with a warm welcome on the part of the medical profession generally.

EPISTAXIS AND PREGNANCY; REPORT OF A FATAL CASE.

By THOMAS HUBBARD, M.D.,

toledo, o.

On January 10, 1894, I saw, in consultation with Dr. G. A. Hollister, Mrs. C——, aged forty, mother of ten children. She was of strong, vigorous habit, and usually very calm and self-controlled. At this time she was within a week of the anticipated period of confinement. About one year, and again five months, previous, she had had very severe epistaxis, having bled until nearly in collapse. She rallied very slowly from the last attack, being then about four months pregnant, and never recovered her equanimity. She was in constant dread of recurrence, and repeatedly declared that she never could survive another attack.

We found her on the date above noted bleeding profusely, and in a condition of intense apprehension and dread. The hemorrhage was unusually severe, and even after the removal of all clots with salt water and securing good illumination, it was very difficult to locate the bleeding point. It was finally approximately determined to be from the septum, near the anterior end of the middle turbinated process. A ten per cent. solution of cocaine was applied on a cotton probe, us-

ing firm pressure. After holding this in place for about five minutes, the hemorrhage was stopped, but of course only temporarily. In fact, the hemorrhage which will surely supervene after cocaine has been used as a temporary hemostatic is nearly always more severe than before.

It is my usual practice to continuously inspect the membrane after thus applying cocaine, watching for the bright pink bleb which will appear in sharp contrast to the surrounding area made anæmic through the action of cocaine, aided by the firm pressure with the probe. This physiological action of cocaine is more transient in effect upon the ruptured artery, as is evidenced by the early appearance of the pink spot, usually about the size of a pin-head. In this case, the location of the source of hemorrhage was thus verified after about ten minutes continuous inspection. A small bead of chromic acid, fused on a copper probe, was applied to the spot and contiguous area, producing a firm eschar.

It was observed that she had atrophic rhinitis, and there were many areas of superficially eroded mucous membrane. An alkaline antiseptic douche kept the nose fairly free from incrustations, and she had no more hemorrhage until nine days after confinement, January 27th. She had been delivered of a healthy child in normal labor.

On the morning of this day she had walked about the house, and about noon as she sat in her chair epistaxis came on suddenly. The amount of blood lost was not great, but it seemed to shock her profoundly. All preparations for the anticipated demise had been made when we arrived, and it was impossible to revive her courage. The bleeding point was thoroughly cauterized, after considerable delay in checking the hemorrhage sufficient for the application of the escharotic, and she was put to bed in very comfortable general condition.

The urine was examined and found normal, and there was no other constitutional disorder suggested. The lochia were natural, but the milk was scanty.

No immediate untoward symptoms followed. There was not even the usual amount of frontal and intranasal pain following cauterization. The antiseptic douche was used three or four times daily. She continued to show great depression and remained in bed in an apathetic condition.

I had discontinued visits, when on February 2d the husband requested me to see her, as the eschar had detached and they feared hemorrhage. Examination showed the whole mucosa more than usually dry and feverish. There were no symptoms indicative of local sepsis, neither was there pain, nor odor from the detached incrusta. I had been summoned solely because they feared hemorrhage from detachment of eschar. There had been no chill nor symptom of serious systemic disturbance. She had complained somewhat of lumbar and post-cervical pains, but for the most part seemed comfortable. Her temperature was found to be above 103° F. The day following it was 104° F. The lochia and milk were suppressed; lumbar pains continued, and a few days later intense pain in one ankle and one right thumb-joint supervened.

The condition of the nose remained the same to the end. There were no symptoms except such as were referable to a high temperature affecting a previously dry and scabby membrane. The antiseptic nasal douche was used faithfully, hydrogen peroxide having been added to the alkaline solution several times daily, and a vaginal wash was employed, there being slight odor from the vagina. The general treatment included the administration of ergot, quinine, strychnine, and salol.

She died in about ten days, the abscesses of the ankle and thumb being the only evidences of metastasis. The temperature ranged very high, often reaching 106° F. The mind was clear to the last hour, but she was throughout the whole sickness rather inclined to drowsiness. During the last day there was considerable abdominal tenderness and diarrhœa.

The pathology of this unfortunate case is rather obscure. It seems to me that the epistaxis and consequent shock was the most prominent factor in disturbing the normal physiological processes of the puerperium, which resulted in toxæmia or pyæmia. The sequence of pathological conditions was probably as follows: She was still in the puerperal state; mental shock induced fever; the uterine and vaginal, together with the already atrophic and unhealthy nasal mucous membranes were thus the source of sapræmia, which condition in turn increased the fever. This gradually merged into a condition of fatal toxæmia. Whether or not such a case could properly be called pyæmia could be determined only by the bacteriologist.

The occurrence of epistaxis during pregnancy is not rare. I have seen and treated five such cases in which the hemorrhage was more or less severe. They were all between the fourth and seventh month. In no case was there any disturbance other than a normal pregnancy, and in only one (the case narrated in detail) was there a history of previous severe epistaxis. In all of the cases a ruptured septal artery was located, and one cauterization sufficed to cure in four of them.

There is a general opinion expressed in the literature of the subject, that hemorrhages of this class are of the same nature as vicarious menstruation. That the nasal mucous membrane may be subject to this condition cannot be controverted, but in a majority of cases epistaxis is determined by other factors. The condition of pregnancy is so often accompanied by vasomotor disturbances of the mucous membrane, such as: nasal hydrorrhœa, or vaso-motor rhinitis, and acute pharyngeal pyperæmia, not to mention gastric disturbances, that it is not difficult to account for one of the predisposing causes of epistaxis. A determining cause is a weakened or eroded blood-vessel. As stated, this is situated usually in the anterior third of the septum.

As a rule, the rupture of an artery within the substance of the septum occurs because of the gradual wearing away of the supporting cartilaginous tissue in contact with the convex surface of the arterial loop. The impingement of the arterial current is greatest at this point, and the poorly nourished cartilage wastes before the pressure. The loop thus gradually loses support on one side, and eventually the weakened wall gives way. Of course, any form of superficial necrosis of mucous membrane or atrophy may aid in bringing about the same result. In this case the recurrence of hemorrhage was doubtless caused by the tendency to superficial necrosis.

In regard to treatment, we would simply impress the fact that the earlier cases like the one narrated are treated, the less danger. The nearer to the period of confinement, the risks from loss of blood, mental shock, and septic complications are decidedly augmented. Cauterization, after the manner detailed, is the way to deal with such cases. The post-nasal tampon materially increases the danger from sepsis, and should be avoided if possible.

NOTE.—In the discussion of this paper before the Toledo Medical Association, Dr. H. Hathaway advocated the administration of strychnine in heroic doses, $\frac{1}{10}$ to $\frac{1}{30}$ gr. hypodermatically, every two hours, in cases of hemorrhage during the puerperium. This treatment would have been adapted to this case, as the general nervous depression was pronounced.

It may further be stated that the atrophic rhinitis was in this case unilateral, being found on the side presenting the concavity of the deviated septum. There was not the fetor of advanced ozæna, but the whole surface of the septum was inclined to formation of incrusta, and slight excoriations consequent upon their detachment.

AN OSTEO-SARCOMA IN THE NOSE OF AN OX.

By JONATHAN WRIGHT, M.D.,

BROOKLYN, N. Y.

During a few hours spent in the country I heard one of my farmer friends say that he had sent an ox to the slaughter-house in New York that day who could not breathe through his nose. Considering that this domestic animal was legitimate game for the rhinologist, I sent the next day to the slaughter-house and succeeded in securing the whole head, and exhibited it that night, with its contents, before the Laryngological Section of the Academy of Medicine. The nasal cavities were filled by an irregularly rounded tumor, which was about 24 ctm. (9 inches) in its longest diameter and about 12.5 ctm. (5 inches) in its shortest diameter. It was most firmly attached to, and seemed to have grown from the internal face of the external wall of the left antrum about 10 ctm. below the orbit. It had grown in every direction—upward, far enough to absorb the lower and internal walls of the orbit, and this had evidently during life produced some exophthalmus. It had caused absorption of a large part of the intranasal structures, especially on the left side. It had made its way across the left nasal fossa through the septum and into the right antrum, part of which it filled, the left antrum being almost entirely obliterated by the growth. About three-fourths of the mass was made up of cancellous bone-tissue, some of which, however, was much more dense than ordinary cancellous tissue. The soft parts and external surface of the tumor were irregularly lobular, and there seemed to be a capsule which in places was adherent to the bony walls of the nasal cavities. There were one or two cysts which contained semi-gelatinous light-colored glairy fluid.

Several pieces were taken from various portions of the soft parts of the tumor and examined microscopically. It was found to be made up of fibrous tissue densely infiltrated with small, spindle-shaped cells having for their support a stroma derived from the fibrous bands which traversed the mass more abundantly in some places than others. Here and there were areas of œdema in which the branching cells of the new connective tissue could be seen. The surface was covered with cylindrical epithelium. There were very few blood-vessels; only a few of the nuclei of the spindle cells were in process of division. Evidently it was, then, an osteo-fibro-sarcoma with small spindle cells and apparently of moderately slow growth.

It is the custom in the section of country whence this ox came for the driver, when he desires to reprove or stimulate his beast, to whack him over the nose with any convenient object, varying, according to the benevolent instincts of the man and the exasperating obstinacy of the ox, from a leather leash to a hickory club. From the situation of the origin of this growth and its nature it is fair to presume that it resulted from the severer form of some such disciplinary violence.

ICE IN THE TREATMENT OF PNEUMONIA.

By CARL ENGEL, M.D.,

MINDEN, IOWA.

On February 2, 1894, I was called in haste to see a two-year-old girl, who had been treated by another physician for some time. I found the child nearly moribund. Temperature, 107° F.; pulse not countable; cheeks flushed; thumbs flexed upon the palms of the hands; head continually rolling from side to side. Examination revealed double pneumonia and leptomeningitis. The case was apparently hopeless. I prescribed a diaphoretic consisting of aconite, ipecac, liquor ammonia, acetatis and spiritus ætheris nitrosi, and also left some asafœtida powders and eight doses of potass. bromide of three grains each.

No improvement taking place, on February 5th I ordered ice to be applied to the head and to be kept on also part of the night. Two ice-bags were employed, one on each side. On the following day I directed that ice be applied also to the chest. I had to deal with a great deal of prejudice, and when the father of the sick child procured the ice, people denounced the procedure as foolish and dangerous. Small doses of strychnine were also ordered. On February 7th, the temperature was lower. Directions were given to keep the ice continually on the head and chest night and day. On the day following this the temperature was normal.

The application of ice was continued for four days longer. It was then discontinued and digitalis was ordered.

Laryngitis or rather laryngeal paralysis appeared, for which I ordered German creosote for inhalation with steam. There had been a severe cough, but that was relieved by muriate of ammonia and terpin. The diet consisted throughout of milk previously boiled, and at times with the addition of aquæ calcis and beef-tea, also occasionally brandy diluted with water.

A CASE OF TRIPLETS.

Dr. John M. Denison, of Blatchford, O., writes: "On January 25th Mrs. Moses Powell, of this place, gave birth to triplets, all girls, weighing 5¼, 5, and 5 pounds each. First born 7.15 P.M., breech first. Second, 10.50 P.M., head and hands. Third, 11.05 P.M., normal. Mother is a brunette of twenty-six years; has had two children prior to these. Mother and children doing nicely to date, and give promise of a continued healthy condition. I merely mention this, thinking, perhaps, the fact might be worth reporting."

A CASE OF TRANSPOSITION OF HEART, LIVER, AND SPLEEN.

By GEORGE S. DIXON, M.D.,

NEW YORK.

S. C——, aged sixteen, peddler's boy, born in the United States of Russian parents. Nothing unusual in the family history. Father living, in good health. Mother died of "abscess during confinement."

Patient has had but one serious illness, pneumonia. Has had "chills and fever," but none of the children's diseases except measles. He is bright, intelligent, and well formed. He presented himself at the Demilt Dispensary last November for the relief of "stick pains," as he termed them, at the lower border of ribs on left side. A snap diagnosis of dry pleurisy was made, but the facts revealed by the physical examination, which was immediately made by the writer, did not confirm it. The liver was found to begin one and one-fourth inch below the left nipple, was somewhat larger than normal, and occupied the space to which the pain was referred. There was slight rise in temperature, no jaundice or other symptom indicating anything more than a mild attack of perihepatitis. Patient stated that he had these attacks about twice a year. At the same time the heart was found transposed, the apex-beat being in the sixth intercostal space one and one-fourth inch inside the right nipple. The aortic second sound was best heard in the third intercostal space to the left of the sternum. Reduplication of the first sound was present, also a soft blowing murmur with this sound not transmitted. There was slight hypertrophy. No subjective symptoms whatever relating to heart. The spleen was found on the right side of about normal size and in relatively good position.

This case was shown before the Pædiatric Section of the Academy of Medicine, February 14, 1895, by Dr. Henry D. Chapin, and the transpositions verified by Dr. A. Jacobi.

124 Lexington Avenue, N. Y.

CEREBRAL HEMORRHAGE AS A SEQUEL TO ENTEROCOLITIS.[1]

By F. P. EMERSON, M.D.,

ROXBURY, MASS.

THE following case is of interest not only because of its rarity but as a contribution to the study of scurvy, which, it is being recognized, may follow as the result of an exclusive feeding of sterilized milk as well as from the various infant-foods which so far have failed to be an ideal substitute for breast-milk.

Mrs. C—— consulted me, August 1st, for her baby of five months, who was having five or six loose greenish stools streaked with mucus and for the first time with a little blood. Child had been for six weeks on sterilized milk, and during most of that time had suffered more or less from diarrhœa. During the first four weeks he was under the professional care of a regular practitioner, who ordered the milk discontinued, to be followed by rice-water for twenty-four hours and antidiarrhœal mixtures, and then a gradual resumption of the sterile milk, which was carefully prepared in an Arnold sterilizer, with definite directions as to the proportions of milk, cream, sugar of milk, lime-water, etc. After six weeks he came under my care, and at this time he was five months old, of well-to-do parents. Weighed at birth 9½ pounds, and at this time 11 pounds. He was pale, with skin somewhat flabby, took his milk voraciously and in large quantities, and gave one the impression of malassimilation. The whole quantity of nourishment was taken rapidly and every two hours. I directed that the time be extended and that he be required to eat slowly and in his mother's arms, also that the milk be only Pasteurized, as the cream seemed emulsified. As there was no improvement I changed to peptonized milk with small doses of the mild chloride and a mixture of bismuth and salol.

August 3d.—The third day after coming under my observation the temperature in the morning was 100° F., and afternoon 101½° F. Stools, twelve to fifteen in twenty-four hours. Fontanels not markedly depressed.

August 4th.—Temperature the same, and number of stools, but some were a mere staining of his tidies. Mouth and lips red, and mother thought his back a little crooked; but I could not detect any abnormality.

August 5th.—Conditions the same, but eats more naturally, *i.e.*, less frequently and more slowly. Has been in the hammock all day.

August 6th.—Temperature 100° F. at 9 A.M. Seven stools during the night, but only two of any amount. Looks brighter. As there was a little straining, with some irritation of the rectum, I ordered an enema of $AgNO_3$. Up to this point the child seemed much better; was out of doors in the hammock all day; ate more naturally and looked so well that his mother considered him out of danger. But there was an element in his disorder which I had not recognized, and which the unhappy sequel, I think, proves to have been scorbutis, as on the 7th he had only five stools, which were better formed, and the temperature rose to 101° F. in the morning and 102½° F. in the afternoon, and thinking it was owing to his food, I again changed to the Walker-Gordon Lab. product; but subsequent events proved it to be the forerunner of a hemiplegia which occurred at 12.20 of the 8th, when I was suddenly called and found facies pale; respiration shallow and irregular; eyes fixed; pupils equal; pulse weak; extremities warm. After an hour the head was turned to one side (right side) and rigid. Left lower limb flaccid. Left arm rigid and could not be extended, remaining semi-flexed. Child apathetic. Reflexes intact. Right arm in motion, and when first seen convulsions seemed imminent. At 4 P.M. temperature in R. A. 100° F.; L. A. 99⅘° F. Two hours and a half after initial attack commenced to move entire left side, but grasp not as strong, and at five acted hungry and took his bottle. Still apathetic, and has made an audible sound only twice. This attack was followed by a second, and the child died at 3.45 A.M., on the eighth day after it came under my care.

I find the literature on hemiplegia as a sequel to enterocolitis, exceedingly meagre. Keating says in eighty-three cases of hemiplegia one was due to enterocolitis, but taking the element of scurvy into consideration, we would expect a hemorrhagic effusion into any of the closed cavities as a result of malnutrition, and a consequent weakening of the vascular walls. Two such cases were reported during the summer of 1894 in the brain. This I believe to have been the case here, and that the child's milk for him was impaired in its digestibility by sterilization, whether by converting the soluble proteids into insoluble, by destroying the ferment, emulsifying the fat, or by rendering the casein indigestible, I do not know, but I believe a complex fluid as unstable as milk cannot be subjected to continuous heat without detriment to its nutritive properties, except as a temporary measure.

255 WARREN STREET.

[1] Read before the Medical Reading Club, Roxbury, Mass., January 3, 1895.

SKIN GRAFTING ON THE BALL OF THE EYE FOR SYMBLEPHARON.[1]

By TALBOT R. CHAMBERS, M.D.,

JERSEY CITY.

CONSULTING OPHTHALMOLOGIST TO ORANGE MEMORIAL HOSPITAL; OPHTHALMOLOGIST TO THE CITY HOSPITAL, JERSEY CITY.

WELL knowing that the general practitioner usually excludes diseases of the eye from his field of work, I venture to present a case because of some unusual features of interest.

Thomas Fitzsimmons, of South Orange, aged nineteen, a mason's apprentice, while unloading a wagon, allowed a barrel of mortar to fall, and some of the flying lime entered his left eye. He came under my care in the Orange Memorial Hospital, and I saw him shortly after the accident. The burn was quite deep in the mucous membrane behind the lower lid, and superficially upon the cornea.

The treatment in the days immediately following the accident was directed to the one purpose of keeping the cicatrix which was to follow as small as possible. Notwithstanding, there was quite a band formed between lid and ball, causing much pain and discomfort.

It is to two points your attention is particularly called. The idiosyncrasy against cocaine; and the fact that skin grafted on to the ball, not upon the lid, but upon the eyeball, cured the symblepharon.

I have failed to find any record of such procedure before. It was done in this case because it seemed to promise more than the transient relief which would be afforded by grafting upon the lid. And, indeed, now that it has succeeded, I may say it was really more easily and effectively done. From the hospital record-book it is found he entered the hospital, November 24, 1892; left December 8th, remaining two weeks. Re-entered December 10th; left December 19th, remaining nine days. Re-entered December 28th; left March 6, 1893, remaining two and one-half months. Re-entered March 7th; left March 22d, remaining two weeks and one day. Re-entered July 22d; left July 31st, remaining one week. Re-entered September 18th; left September 29th, remaining ten days. Re-entered October 18th; left October 25th, remaining one week.

He was thus during the year following the accident in the hospital seven times for and on account of this eye. On all of these occasions except the first he complained of pain on moving the eye upward. Cica-

[1] Read before the Hudson County Medical Society, March 5, 1895.

tricial bands were cut and various plastic operations were done to relieve the pterygii forming and reforming. In October, 1893, he was practically blind in this eye, besides having more or less constant pain. The lachrymation was a most troublesome feature, and in fact he was altogether miserable.

On October 18th, an elongated ellipsoid piece of skin was grafted from the adjacent temple upon the ball of the eye. The ball was denuded of all cicatricial tissue, and this flap of skin was twisted around its pedicle at the external canthus and sewed to the ball, it being carried well down into the sulcus between lid and ball. The pedicle remained between the lids for four days without giving any annoyance when it was severed; and now, eighteen months since the operation, he has not lost one minute's sleep nor one day's work on account of the eye. He presents a fairly good-looking eye, has a vision of $\frac{1}{8}\frac{0}{0}$, and above all, retains his eye and is comfortable. At one time it seemed impossible to save the eye at all.

The very strange action of cocaine instilled into the eye is certainly remarkable. On the first three occasions when operations were performed, a sufficient amount of cocaine solution was dropped between the lids to produce anæsthesia. It was followed in a couple of hours by a maniacal condition, in which it was necessary to place a camesole about him, and for three days and nights keep him under restraint, tied to his bed. On one occasion this was accompanied by a rash over the whole body very closely simulating typhus fever. His idiosyncrasy against cocaine was such that general etherization was always afterward preferably employed.

PLACENTA PRÆVIA—DEATH FROM SHOCK AFTER DELIVERY.

By A. C. HARRISON, M.D.,

MEYERSDALE, PA.

On February 3d I was called in consultation with Dr. O. G. Getty, of Meyersdale, to see Mrs. ——, a multipara, aged forty-two, and in the eighth month of pregnancy. She had had repeated hemorrhages during the preceding three months, and Dr. Getty had made a diagnosis of placenta prævia. The pulse was rapid and weak, patient nervous and sighing. There was an occasional effort at uterine contraction and intermittent hemorrhage. Examination showed a patulous os, admitting one finger easily, with placenta prævia centralis, separated from the margins of the cervix for an inch or more. The general condition seemed fairly good, though the patient showed plainly the effects of acute anæmia. Immediate delivery was advised and accepted.

The necessary arrangements were hastily made and the patient put to sleep with chloroform. Under its influence the pulse almost ceased. Ether was substituted and the pulse improved markedly. Delivery was accomplished in the usual way; placenta separated as far as the finger could reach, as dilated to admit the hand, placenta perforated, pedalic version and the half breach brought down.

Extraction was as slow as deemed advisable and the placenta delivered immediately after. The whole procedure occupied about thirty minutes. A hypodermic of 30 ♏. of ergot was given and the uterus contracted firmly, hemorrhage ceasing entirely. The pulse was weak, but the general condition did not seem specially alarming. For the weak heart's action one-thirtieth grain of sulphate of strychnia was given hypodermically and five or six hypodermics of whiskey. She was surrounded with hot bottles and one-half gallon of warm water injected into the rectum. The uterus remained firmly contracted and there was no further hemorrhage, but in spite of all efforts she rapidly sank and died of shock in about thirty minutes after delivery.

The patient became conscious in a few minutes after the anæsthetic was withdrawn, sufficiently so to ask for water, which was given warm. There were no lacerations, and bleeding was not great at any time after the operation was begun.

The fact that the heart's action became very bad under chloroform and improved very markedly under ether is a point worthy of note.

Progress of Medical Science.

Pancreatic Diabetes.—The subject of the pathogeny of diabetes was brought prominently before the recent meeting of the French Congress of Medicine at Lyons, and was discussed by Lancereaux, Lépine, Glenard, Comby, Teissier, Charrin, Renault, and others. We shall here take up but one aspect of the question and state the principal facts on which the existence of pancreatic diabetes is affirmed; these facts are now numerous, and are constantly increasing. (*The Boston Medical and Surgical Journal.*) In 1877 Lancereaux reported to the Academy of Medicine, with the morbid specimens, two interesting cases of "grave diabetes," dependent (as he believed) on destructive lesions of the pancreas. In 1879 appeared the inaugural thesis of Lapierre on diabetes, caused by alterations of the pancreas. The disease, as he describes it, begins suddenly, and manifests itself by intense thirst and hunger, then by abundant polyuria with sugar oscillating between three hundred and six hundred grammes per day, and rapid emaciation, with loss of all the forces, and finally complications (broncho-pneumonia, diabetic coma, phthisis) that carry the patient off. The same writer published a subsequent memoir founded on twenty well-observed cases; in fourteen of these there was atrophy of the pancreas more or less advanced. In some the disease was due to calculous obstruction of the duct, in others to chronic disease followed by atrophy of the organ, and in still others by sclerosis. These observations received powerful confirmation by the experimental results of Mehring and Minkowski, who extirpated the pancreas in dogs. They found that diabetes begins a short time after extirpation and persists till the death of the animal. "In addition to the glycosuria there are polyuria, great thirst, hunger, and rapid emaciation." In one dog, which had fasted forty-eight hours, the urine contained from five to six per cent. of sugar, while another dog, weighing sixteen pounds, fed on an exclusive meat diet, eliminated daily almost one litre of urine with six to eight per cent. of sugar. The urine also contained acetone. No glycogen was found in any of the organs after death, even in animals that had been dead four weeks or more. It was said there was no injury to the solar plexus by the operation, so that the diabetes could not be referred to nervous influence. These investigators noticed that whenever there was left any fragment of the pancreatic tissue in the abdomen, glycosuria did not develop. The total ablation of the pancreas produces a permanent diabetes, and this comes on immediately and attains its maximum in two or three days. Dominicis, an Italian physiologist, made subsequently a similar series of experiments, though without absolutely identical results; in a few of his animals (one-third of the cases), the diabetes failed to appear after total extirpation of the pancreas, and where the disease did appear, it was not till twenty or thirty hours after the operation. Redmond, of Metz, in 1889 and 1890, published some experiments made with Marinisco and Chaput, as the result of which they conclude that total destruction of the pancreas generally produces permanent diabetes, and that even partial ablation of this organ is sometimes followed by the same effect. Hedon excised the pancreas in twenty-two dogs, and in each case diabetic urine was

passed the day after and persisted until death, with all the characteristic symptoms of saccharine diabetes. When injections of paraffine were made into the pancreatic duct, destroying the digestive function of the gland, diabetes did not supervene. Thiroloix succeeded by a novel method in completely destroying the pancreas, and yet in keeping his dogs alive a long time. By injecting asphaltum into the pancreatic duct, he caused sclerosis of the organ, which became shrunken to a hard, firm cord, deprived of all gland-cells, yet under these conditions glycosuria did not appear. In other cases he removed a portion of the pancreas, after which he obtained symptoms of intense glycosuria. In another series he removed the whole of the pancreas and obtained a lasting diabetes. On autopsy lesions of the solar plexus were noted. His conclusion is that oblation of the pancreas acts reflexly, by its influence on the nervous system. In other words, "pancreatic diabetes may be regarded as a particular form of nervous diabetes." This does not differ from the old theory of Klebs, which regards diabetes as an expression of lesions of the solar plexus. This is the view of the pathogeny of "lean" (grave) diabetes held by Mathieu in the *Traité de Médicine*. Lépine, who was co-referee at the recent Lyons Congress, has recorded forty cases of removal of the pancreas in dogs. After complete removal he has always noted the appearance of sugar in the urine within eight hours, and the diabetes is permanent. He believes that the blood has the power of constantly destroying glucose by the action of a ferment made in the pancreas (glycolytic ferment); this ferment is diminished in diseases of the pancreas and wanting when that gland is destroyed. Lépine adduces experiments which he thinks sustain this view. It is interesting in this connection to note that Thiroloix, in considering the results of pancreatic grafting, an ingenious device practised by Minkowski, Hedon, and himself (whereby the pancreas in dogs is brought out of the abdominal cavity and grafted into the muscles of the external walls), has modified his former theory, and has adopted Lépine's conclusion, "that the pancreas produces the principal glycolytic ferment which destroys glucose in the blood" and thus prevents its reaching the urine. De Renzi and Reale, in their numerous experiments, have caused diabetes in .75 per cent. of the animals on which they produced entire extirpation of the pancreas. They also claim to have caused glycosuria by extirpating the salivary glands (parotid and submaxillary). Minkowski, in reviewing their work, says that diabetes never fails to appear after complete removal of the pancreas if the animals live long enough after the operation. This statement is founded on fifty-five experiments made on dogs. Three times only did the sugar fail to appear in the urine; but the dogs succumbed during the first twenty-four hours. As to glycosuria after incomplete extirpation, he admits its existence, though in general it is slight; in one case, however, there was serious diabetes, though the fragment of pancreas left was fairly large. He regards glycosuria following extirpation of the salivary glands as only temporary. Lépine, in his communication to the recent Congress, October 29, 1894, defines his glycolytic theory. The "ferment" is taken up by the leucocytes and carried by them to the tissues where it aids glycolysis. His experiments on artificial circulation have demonstrated the influence of a ferment in the blood on the consumption of sugar. An animal (a healthy dog) is bled to death; into one of the hind legs blood is transfused that is poor in glycolytic ferment (being taken from the vessels of a dog whose pancreas has been extirpated). Into the other leg blood rich in glycolytic ferment is transfused, being taken from a healthy animal. It is invariably found that the consumption of sugar is greater in the limb into which is transfused blood containing a normal amount of glycolytic ferment.

Operation for Congenital Dislocation of the Patella.—Dr. Bajardi describes the case of a child, aged four, operated on for imperforate anus when two days old. As soon as he began to walk it was noticed that he fell down unusually often, and especially when stooping to pick anything up, or when going up or downstairs. (*The British Medical Journal*). When the left knee was flexed beyond a certain point the patella would slip with a jerk to the outside of the knee. Both kneejoints presented a marked flattening of their anterior surfaces. The right patella was only slightly movable laterally, and it was impossible to move it into the median patella fossa. The left patella could be easily moved beyond the external margin of the external condyle, which was flatter than normal. There was no sign of genu valgum, and no history of injury. The dislocation could be produced at will and without pain. The chief causes of the dislocation were, 1, looseness of the internal capsular ligament; 2, flattening and outward inclination of the anterior surface of the external condyle; 3, partial atrophy of the vastus internus, allowing exaggerated action of the vastus externus. As the dislocation could be prevented, even when the knee was flexed, by pinching up the internal lateral ligament, Bajardi operated on the knee on November 25, 1892, excised a semi-lunar piece of the internal capsular ligament, and sutured the cut edges, thus shortening the ligament. A month after the operation the boy could walk without inconvenience and the dislocation has never recurred since. Bajardi has collected thirty-four other cases, and from a study of these he believes that congenital dislocation of the patella is generally due to anatomical deficiencies or abnormalities in the osseous or soft parts of the knee-joint. In many cases the symptoms are so slight that the patient does not seek surgical advice; in others they get gradually better as the patient grows older. More severe cases, from the difficulty and insecurity of their walking, come into the surgeon's hands. A good kneecap suffices in many cases. The operative treatment must depend chiefly on the nature of the individual case and the particular cause of the dislocation.

Treatment of Artificial Anus.—Dr. Chaput records thirty-five cases of artificial anus and stercoral fistulæ which he has treated. After an exhaustive survey of these cases he has formulated the following conclusions concerning the treatment of this class of cases. He says that artificial anus can be treated by four different methods: 1. By the application of enterotomy, followed by obliteration of the fistula. (*a*) Enterotomy is indicated when the cases are uncomplicated and the aperture is easily accessible, together with a thin and long partition. When the spur is long and thin it is advisable to adopt Richelot's method—that is, section between two pairs of forceps and immediate suture. If, however, the spur is long and somewhat thickened, it is better to make the suture between two long pairs of forceps, which are allowed to remain in position. Enterotomy is contra-indicated when the spur is very thick or inaccessible, or when the aperture is closed by the mechanism of angular wounds. (*b*) After destruction of the spur, the stercoral fistula is closed. Small fistulæ are closed by lateral enterorrhaphy, during which operation the margins of the fistula are freely separated from their surroundings, and then united with two tiers of sutures, the peritoneum being opened or not according to the requirements of each individual case. In the case of large fistulæ lateral enterorrhaphy may be employed, but the peritoneum should not be opened. 2. Resection. Resection is, as a general rule, contra-indicated, but when in the course of a lateral enterorrhaphy the intestine is easily friable and is largely lacerated, it is necessary to resect the two ends and reunite them by appropriate sutures. 3. Longitudinal enterorrhaphy. When enterotomy is for some reason contra-indicated, it is sometimes advisable to employ

longitudinal enterorrhaphy without resection. This operation is done by making a circular incision in the skin around the artificial anus, and opening the peritoneal cavity. The two ends are drawn out, a longitudinal slit is made in each, and then the margins of the slits of the same side are sewn together with sutures. This operation is indicated when in the course of a lateral enterorrhaphy considerable constriction is met with just below the lower end. When the intestine is very friable it is contra-indicated. 4. Entero-anastomosis. Entero-anastomosis, followed by ligature of the two ends between the point of anastomosis and the stercoral aperture, is a simple, easy, and benign operation. It is indicated when the intestine is very friable at the seat of the artificial anus, or when there is a considerable constriction of the bowel in the neighborhood of the external aperture, and also when the inferior end is obliterated at the level of the artificial anus.—*Archives Générales de Médicine.*

The Surgical Treatment of Tumors of the Ileo-cæcal Region.—Dr. Körte recently read a paper on this subject (*Medical Press*). He said that the ileo-cæcal region was a point of predilection for the development of malignant tumors, and these were mostly in the form of carcinomas and local intestinal tuberculosis. The lumen of the gut was diminished and the glands were much enlarged. He had had 13 cases, 7 of which were operated on successfully; 2 of these, however, ended fatally in eight and eleven months later respectively. Three of the cases operated on were carcinoma, 3 tuberculous, and 1 actinomycosis of the cæcum. The last case was not recognized as such previous to operation. At the operation in this case an artificial anus had to be made. The disease had, however, extended to other organs, and the patient died exhausted eight months after the operation. The commencement in the case of malignant disease was very insidious. Generally the symptoms were those of typhlitis and coprostasis. Three of his cases had been sent to him from the medical side with the diagnosis of typhlitis. Suppuration frequently took place in the neighborhood of the bowel. These abscesses on being opened had characters differing from those of perityphlitic abscess. One passed into a cavity with hard walls, and they were less circumscribed, but they were difficult to distinguish from such perityphlitic abscesses. The history in these cases was very important. The diagnosis was frequently only made with the microscope. This was not very important, as the treatment was the same in all the classes of cases. As regarded treatment, resection and reunion of the divided parts were necessary. Symptoms of acute obstruction were contra-indications for resection and suture. Simple enterostomy was here called for with resection later on. The extent of the tumor might be prohibitory of operation. Another contra-indication was advanced cachexia. Of the 3 tuberculous cases 2 were hereditarily predisposed.

Recent Views on Diet in Diabetes.—Dr. R. T. Williamson, of Manchester, writing on the dietetic treatment of diabetes mellitus, points out that there are two well-marked forms of the disease—a mild form, amenable to a strict non-carbohydrate diet, and a severe form in which a strict diet does not arrest the sugar excretion. For some years, especially in Germany, the opinion has gradually been gaining ground that in the severe forms of diabetes a very strict diet is dangerous. Thus Leo has pointed out that a great increase of the nitrogenous metabolism, and, as a result, great loss of strength, occur in the majority of the severe cases of diabetes. Therefore treatment in such cases should be directed to diminish the sugar excretion, and also the nitrogenous metabolism. Leo demonstrated that, like the fatty foodstuffs, the carbohydrates have the power of diminishing the nitrogenous metabolism, and he has proved that, even on a carbohydrate diet, cases of severe diabetes manifest improvement and gain in weight, even though the excretion of sugar be increased. Leo considers that this improvement is in part due to diminished nitrogenous metabolism, to a limitation of albumin destruction, brought about by the albumin-sparing influence of the carbohydrates. The quantity of urine, the body weight, and the nitrogenous waste should be taken as guides in treatment, as well as the amount of sugar excreted. Hirschfeld has shown that in healthy persons acetonuria can be produced by a fatty and albuminous diet. The addition of carbohydrates prevents the occurrence of acetonuria. In cases where the carbohydrates are no longer burnt up in the system, a large quantity of acetone is often found in the urine, in spite of the carbohydrates in the food. Hirschfeld believes that diabetic coma is favored by the exclusion of carbohydrates in the diet. When the excretion of acetone is great, a strict diet ought not to be advised, but moderate quantities of carbohydrates should always be ordered. He also suggests the use of 100 to 150 grammes daily of glycerine in black coffee when early symptoms of coma appear. He does not recognize any form of acetonuria except the diabetic. Schmitz believes that diabetic coma is due to absorption of toxic substances consequent on the putrefaction of the undigested food in the intestines. We should therefore guard against giving an unduly large amount of animal food in diabetes, as the stomach is unable to digest such large quantities. He also points out the differences in the urine passed at night and during the day. Sugar appearing in the urine eight hours after a meal is formed from albuminates, and is a special sign of the severe form of diabetes. In the severe forms of diabetes Schmitz allows his patients to take food containing starch, and fat in large amount, but only a small quantity of albumin. He finds by such a diet that the general condition of the patient is much improved; the body weight and appetite increase, acetone and diacetic acid disappear in the urine, and in spite of the carbohydrates in the food, the sugar diminishes. Schmitz, Klemperer, and others have directed attention to the great value of cod-liver oil as a fatty food in diabetes. This is an old remedy which has not been largely employed in the treatment of diabetes. If the patient resents the cod-liver oil, liparine may be substituted. Starch is the only carbohydrate Schmitz would allow; all fruits and sugars he considers injurious. Schmitz, therefore, in severe cases would allow starch-containing food, which he considers of importance; but he would limit the amount of animal food. In the mild cases he would reverse the treatment, and withdraw carbohydrates from the food. Grube believes that the only way to prevent the acetonuria developing into diabetic coma is by impregnating the system with carbohydrates. Dr. Williamson next refers to the breads suitable for diabetic patients. He considers the home-made preparations as reliable, and less expensive and more palatable than the advertised breads. Ebstein recommends aleuronat. This is a vegetable albumin prepared from wheat. By the addition of ordinary flour, bread can be prepared from this substance. The following are Ebstein's directions for the preparation of bread: Take about 7 ounces of white flour, about 7 ounces of aleuronat, about five ounces of butter, one teaspoonful of salt, and 310 grains of baking powder. The flour and aleuronat are first mixed in a dish warmed to about 30° C., the melted butter and lukewarm milk gradually added, then the salt, and finally the baking powder. The dough is well mixed, formed into loaves, and baked at a good heat. Dr. Williamson has had palatable and cheap cakes made as follows: 2 ounces of finest desiccated cocoanut powder, 2 ounces of aleuronaut, 1 egg, and a little milk. The egg is beaten up, and the aleuronat and cocoanut powder added together with a little milk. The mass is stirred until a dough is formed. This is cut into thin cakes and baked.—*Med. Chronicle.*

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LEUCOCYTOSIS IN PNEUMONIA.

As long ago as 1839 Piorry noticed that cases of croupous pneumonia were accompanied by a noticeable increase of white corpuscles in the blood. The practical significance of his observations was not, however, considered very great. Dr. Billings has recently made some new studies on this subject, which appear in the *Johns Hopkins Hospital Bulletin*. He reminds us that Virchow, in 1871, spoke of a leucocytosis in pneumonia, and held that there was an actual new formation of leucocytes, *i.e.*, an absolute increase in the total number present in the circulation, but only in those cases in which there was swelling of the bronchial glands.

Since then there have been many investigations on the subject, especially in the last four years. Nasse, Koblanck, Sörensen, and Pée all noted the presence of a leucocytosis during the course of croupous pneumonia, but they did not speak of its relation to the temperature, nor to prognosis.

Halla, in 1883, was the first to report a series of cases, 14 in number. In 12 of these there was a leucocytosis, while in the remaining 2 the leucocytes were not increased. Both the latter cases ended fatally. He was the first to call attention to the fact that the absence of leucocytosis is of bad omen. He found no correspondence between the temperature and leucocyte curves in those cases ending in recovery.

Hayam and Gilbert, in 1884, remarked upon the typhoid character of those cases of pneumonia in which there is no leucocytosis.

Tumas, in 1887, stated that there was a rough daily correspondence between the temperature and the leucocytes, and that the number of the latter was greatest at the severest stages of the disease. He also noted that the leucocytes did not reach normal at the same time as the temperature, but remained elevated for three or four days after the crisis.

Boekmann and Von Jaksch claim that there is a constant relation between the number of leucocytes and the temperature in various acute infectious diseases, and particularly in pneumonia.

Kikodse states that leucocytosis is absent only in fatal cases. He believes that the leucocytosis begins before the involvement of the lung takes place, that it runs parallel with the temperature, and falls to a point below normal with the crisis in temperature.

Romer believes the leucocytosis in pneumonia to be caused by the products of destruction (bacteria, cells, etc.) brought about by the alkali-proteins, and not directly by the alkali-proteins themselves.

Von Jaksch, recognizing the bad prognosis in cases which showed no leucocytosis, and believing that the fatal termination was due directly to its absence, recommended the use of drugs which would produce an increase in the number of leucocytes in the blood (antipyrin, pilocarpin, etc.). Such treatment was ineffectual, as will be demonstrated later.

Other observations record similarly conflicting views.

Dr. Billings bases his personal views on the study of 22 cases of pneumonia, of which number 12 recovered and 10 died. Of the 10 fatal cases only 1 (No. 20) showed a complete absence of leucocytosis during the entire course of the disease. In Cases 16 and 19 the leucocytes, while being always above normal, ranged relatively low, never being above 19,000. In Case 14 the leucocytes behaved as one would expect them to in an uncomplicated case ending in recovery. In Cases 15, 17, and 21 the leucocytes were practically normal on admission, but gradually rose during the ensuing three or four days, touching just before death 30,000, 32,000, and 30,000, respectively. In Cases 13 and 22 the leucocytes were high on admission, but fell steadily from that time on until death. In Case 18 they were normal for the first two days, but rose sharply to 20,000 twenty-four hours before death, falling slightly just before the end.

Thus we see that in fatal cases the behavior of the leucocytes varies widely. In six cases there was absence of leucocytosis at some period of the disease, but the continuous absence is the exception, not the rule. In none of the cases was there any daily correspondence between the temperature and leucocyte curves. In the four cases in which the leucocytes rose at the end, however, there was a corresponding rise in temperature. As regards the relation of the amount of leucocytosis to the extent of lung involvement, no definite conclusions can be drawn. In Case 15, where the entire right lung and a portion of the left were involved, the maximum leucocytosis was only 30,000 just before death. None of the cases were seen until at least twenty-four hours after the chill, so that no data are furnished as to how early the leucocytosis appears.

The final conclusions of Dr. Billings are given as follows:

1. In cases of pneumonia pursuing a favorable course there is, as a rule, a marked increase in the number of the leucocytes during the febrile period of the disease. This leucocytosis is probably present at the time of the chill, and may be very marked within a few hours. There is no correspondence between the daily temperature and leucocyte curves during the febrile period.

2. In those cases in which the temperature curve falls by crisis, the leucocyte curve begins to fall within a few hours of the same time. The fall of the latter is only partial, however, and rarely reaches normal as soon as the temperature curve, generally taking about forty-eight hours longer. In cases ending by lysis the two curves fall together, the temperature always reaching normal first. In cases of delayed resolution the leucocytes may remain elevated for days.

3. In a majority of the cases the leucocyte curve

rises during the period of fall of temperature, and may reach its maximum at that time. Such a rise is only transient, however, and is soon followed by a fresh fall.

4. In cases showing extensive involvement of both lungs, the leucocytes are apt to reach a higher point than in those cases where the involvement is only moderate. The correspondence of lung involvement and amount of leucocytosis is a very rough one, however.

5. The fatal cases may show either the presence or absence of leucocytosis. In those cases showing a leucocytosis, some other cause of death than the virulence of the bacterial poison must be sought for.

6. The prognosis in cases showing a complete and continuous absence of leucocytosis is unfavorable as a rule. A continuous absence of leucocytosis is the exception, most cases showing a leucocytosis at some period of the disease. The possibility of the absence of leucocytosis being due to extreme mildness of the disease must not be overlooked.

7. The leucocytosis in pneumonia is a so-called pure leucocytosis, *i.e.*, an increase in the polynuclear elements solely. In cases showing no leucocytosis, the blood condition, according to the observations here reported, is normal. Further investigations are necessary before the work of previous observers can be positively contradicted.

8. The presence or absence of leucocytosis only shows the virulence of the bacterial poison. It is not a criterion of absolute prognosis.

THE CONSUMPTION OF NARCOTICS AND STIMULANTS.

In these days when so much is being said about the degeneracy of the race, it is interesting to learn that there are some signs which, if not very promising, are at least not altogether bad. We refer to the facts brought out concerning the consumption of beer and spirits in Great Britain. According to a recent Parliamentary report the consumption per head of tea in 1861–62 was 4.38 pounds; in 1893 it was 6.90 pounds yearly. In regard to wines and spirits the total amount consumed in 1861–62 was 35,000,000 gallons, or 1.22 gallons per head. In 1876 this had increased to 1.30; since which time it has steadily increased till in 1893 it was 1.35 gallons. In regard to beer the consumption in 1861 was 324.3 gallons per head; in 1874, 34 gallons; and in 1893, 29 gallons. The consumption of tobacco was, in 1861, 19½ ounces; in 1877, 23¾ ounces; and in 1893, 26 ounces.

From all this *The Lancet* deduces the general conclusion that while tea and tobacco are consumed more than they were thirty-two years ago, the consumption of alcohol is declining.

The Lancet is very much committed to optimistic views regarding the British race, finding, for example, no increase of crime or insanity, and now a positive decrease in alcoholism. While there is some justice in the position taken regarding the latter point, we think our contemporary puts it in rather too pink a light. For while the figures show a present tendency to decrease, they nevertheless also show that the total amount of tea, tobacco, wine, spirits, and beer consumed per head was greater in 1893 than in 1861.

THE PATHOLOGICAL HISTORY OF TWINS.

The family history of twins is a subject the study of which offers much that is interesting and worthy of the attention especially of neurologists. In families where twin births are frequent, it has several times been noted that cancer was one of the prevailing diseases among those born singly, while the twins were especially prone to suffer from nervous affections. Critzman has reported in the *Bulletin Médical* for 1894, p. 983, a family in which all the members not twins suffered from cancer, and Féré has related a somewhat similar history in a communication made to the Société de Biologie in December, 1894.

Of this family a complete history could be obtained only for three generations, but it was said that the great-grandmother had had many relatives in the ascending and collateral branches of the family who were twins. The great-grandmother of this family died at the age of fifty-two of cancer of the uterus, after giving birth to four children, two of whom were twins. One of the latter was epileptic and died at the age of twenty-two during a convulsion. The other twin had melancholia and committed suicide at the age of forty-seven years. One of the other children died of cancer of the uterus in her forty-ninth year, after twice bearing twins, all of whom died in convulsions during infancy. The remaining child, a male, was the father of two children. He died of some acute malady, possibly pneumonia, in his fifty-fifth year. One of his children died unmarried at the age of fifty-one years of cancer of the stomach. The second child, Madam G——, died at the age of fifty-nine of what was said to be liver disease. She had three children, one of whom is living in good health, unmarried. The other two children were twins and are both living, one epileptic, the other suffering from agoraphobia.

Thus there were among three generations of the descendants of one woman four sets of twins, all of whom were the subjects of some nervous malady. Of the six born singly, including the great-grandmother, three died of cancer and one of hepatic disease, which may have been cancerous. Dr. Féré does not bring forward his cases as corroboration of the theory of the origin of cancer advanced by Critzman, but simply reports the facts, laying particular stress, however, upon the prevalence of nervous affections among the twins.

ANOTHER CONSUMPTION "CURE."

The United States Consul at Berlin has sent home to Washington an account of an alleged cure for consumption, discovered by Dr. Louis Waldstein, of this city. The text of the Consul's letter is printed elsewhere. This text shows that the ingenious inventor has not yet discovered a cure, but only a theory of a cure. The theory is this:

"By successive injections of minute doses of pilocarpine in the veins, he arrives at a gradual stimulation of the lymphatic system. That system increases the white corpuscles in the blood, which corpuscles, as is well established through Metchnikoff, of the Pasteur Institute of Paris, Hankin of Cambridge, and Buchner of Munich, in some way, not generally agreed upon, do

certainly overcome and cause to be harmless those poisonous particles in the blood which produce disease. Metchnikoff thinks that the microbes which destroy the red corpuscles of the blood are swallowed and englobed alive by the white corpuscles. Hankin and Buchner think that the white corpuscles merely absorb the dead microbes, and therefore call the white corpuscles 'alexine,' or protective particles. Dr. Waldstein goes to the fountain whence these white corpuscles spring, and tries to enliven its action and productiveness when, through disease, these health-giving particles have become too few to keep the blood in proper order."

Dr. Waldstein has not yet tried this theory in pulmonary tuberculosis, but in one case of lupus of the hand the results are spoken of as extraordinary.

We cannot but feel the strongest scepticism of the alleged discovery; and it is unfortunate that, if there is merit in it, the matter should be made a subject of governmental correspondence and newspaper advertising, on the strength of, as it appears, a single case.

Lupus runs a very curious course, and we all recall the occasional subsidence of the disease under injections of tuberculin and cantharidin, as well as in thyroid feeding.

The basis of the theory itself is weak, for we know that in those conditions in which the white blood-cells are excessively numerous, such as leukæmia, the patients are ill and show no increase in vital resistance.

Our consuls should find better employment than in advertising new remedies and in endorsing sensational therapeutic theories.

FURTHER STATISTICS IN REGARD TO DIPHTHERIA ANTITOXIN.

At the Congress of Internal Medicine which recently met in Munich, Dr. O. Heubner communicated new statistics regarding the effects of the heilserum. In a total of 3,000 cases, collected from different parts of the world, the mortality was twenty per cent. Among 207 cases treated at Charité Hospital the mortality was thirteen per cent., and among the 181 pure cases, ten per cent. Relapses occurred in 1.6 per cent., and paralysis in 7.4 per cent.

Baginsky reported that at the Kaiserin Hospital the mortality, which used to range about forty per cent., has been reduced to thirteen per cent. Baginsky also stated that among 59 families 124 children were inoculated for immunizing purposes, and that in no case did diphtheria occur. Widerhoper, of Vienna, stated that among 300 cases the mortality was 23.7 per cent., this being a much lower death-rate than had previously existed. Among 130 children who were immunized only 1 caught the disease.

Ranke, of Munich, found that under serum-therapy the mortality-rate fell from forty-two per cent. to 18.6 per cent. Several others gave reports of about the same character, and all expressed a belief in the therapeutical efficiency of the serum.

A Thing of Culture.—The bacillus.

News of the Week.

Death of Dr. Benjamin F. Westbrook.—Dr. Benjamin F. Westbrook, a well-known physician of Brooklyn and contributor to the MEDICAL RECORD, died at his home, 91 Division Avenue, Monday, of pneumonia. He was born in St. Louis on February 4, 1851, and was graduated from the Long Island College Hospital in 1874 at the head of his class. Five years later he was a member of the junior faculty, teaching anatomy and surgical pathology. He was visiting physician to the Methodist Episcopal Hospital and to St. Mary's Hospital for a number of years, and was a member of the American Climatological and American Laryngological Societies, of the New York Academy of Medicine, and of several of the Brooklyn medical societies. He was a contributor to medical literature, and devised a method of drawing blood from the overcharged right side of the heart with a fine, hollow needle in otherwise hopeless cases of pneumonia. For a year he has been writing extensively on a system of therapeutics, and at his death was engaged on a large work on medical diagnosis.

Death of Dr. A. S. Sally.—Alexander Samuel Sally, of Orangeburg, S. C., died April 1, 1895, aged seventy-seven years. Among the representatives of the highest type of the Southern physician Dr. Sally stood foremost, not only because of his attainments in his chosen calling, but because of his kindly, generous, chivalric nature. Indifferent almost to carelessness to the financial aspects of his calling he labored for fifty years among the swamps and hamlets of Orangeburg County in South Carolina, in which his name had become a household word. During the war he occupied a high position as a surgeon; and he won the esteem of his comrades, from the humblest to the highest, by his unselfish devotion to their welfare. His interest in the younger members of the profession was a distinguishing characteristic; his example to those of the present generation who fell within the sphere of his personal influence was wholesome and ennobling. He left a widow and seven children, one of whom is a physician.

Alleged Cure for Lupus and Consumption.—Consul-General Key, of Berlin, has sent to the State Department the following communication, which we print in part: "The coming Medical Congress in Munich is likely to give no little attention to a discovery made by Dr. Louis Waldstein, of New York, which is announced this week in the *Berliner klinische Wochenschrift*, the most serious and trustworthy medical weekly in Germany. Congress will have much to say about the Loeffler and Behring heilserum for the cure of diphtheria, and as Dr. Waldstein's discovery in a certain sense completes the heilserum, acting favorably on patients whom the serum does not cure, the new idea of the American can hardly fail. . . . I have thought that such a discovery, even if it cured the obscure and hitherto incurable disease of the skin called lupus, ought to be known at once in America, where it may save lives and shorten much affliction. During his earlier studies in New York, Dr. Waldstein had his attention called to pilocarpine. This alkaloid acts power-

fully on the salivary and the sweat glands. At the time Dr. Waldstein was trying to discover the effects of the stimulation of various glands, like the thyroid, lymphatic, etc., he made the discovery that pilocarpine exercised the most surprising effects on the lymphatic glands and the entire system, to which we ascribe the elaboration of the lymph, or white corpuscles of the blood. Coming to Berlin, he passed the last four months at the Urban Hospital. It was here that he proved to himself the truth of his reasoning on the relations of the lymphatic system to diseases like lupus, as well as tuberculosis in other forms, to diphtheria, and other diseases. He has satisfied himself that pilocarpine, when injected in the veins, forms a trustworthy test for the presence of tubercular disease in man and in animals, giving the physician the strongest possible certainty in the diagnosis of obscure cases. A striking instance of the truth of his reasoning is the case of a man, twenty-four years old, a Berliner, who has had a lupus on the back of his right hand for twenty-two years and was thought incurable. Relief was immediate after the first injection, and the hand is almost healed. This cure has created a sensation among medical men, and some hope that the road to the cure of cancer also has been entered."

A Banquet to Dr. John J. H. Love.—A banquet was given Dr. John J. H. Love, of Montclair, N. J., on Tuesday night in the Montclair Club-house, in recognition of his services to the town during his more than forty years residence in it. Over two hundred guests, composed of townsmen and medical men of Montclair and neighboring towns were present. The address of welcome was made by John H. Wilson, who presided, and was responded to by Dr. Love, after which speeches were made by Philip Doremus, Hon. Franklin Murphy, Dr. George F. Shrady, Edwin B. Goodell, John R. Howard, Rev. A. H. Bradford, D.D., and Starr J. Murphy.

The Antitoxin Treatment Abroad.—The German Government has issued an order that before antitoxin can be offered for sale in the German Empire it must be submitted to the Institute of Infectious Diseases at Berlin. After examination the Institute will mark with a special stamp the date and number of the sample on the bottle. This regulation came into force on April 1st. A measure similar to that passed by the German Government is now before the French Legislature. The French Minister of War has decided that a supply of antitoxin for use in military hospitals shall be kept ready at the head-quarters of the medical staff of each army corps. Reports of all cases in which the serum is used must be sent in to the proper authorities within fifteen days.

Medical Freemasons.—At a recent meeting of the Æsculapius Lodge of Freemasons in London it was decided to entertain all medical masons who may attend the meeting of the British Medical Association in that city, in August next, and an appropriation was unanimously voted for that purpose.

Medico-Legal Congress.—The Medico-Legal Society announces that it will hold a Medico-Legal Congress, at or near the City of New York, during the last week of August or first week of September, 1895 (time and place to be hereafter announced), open to all students of medical jurisprudence. An enrolling fee of $3 will be required of each member to aid in the expenses and the publication of the Bulletin of the Congress, to be sent each member free. A considerable number of papers have already been secured.

Disinfection of Butchers' Shops.—M. Miquel and M. Crinon, after a series of experiments, have ascertained that an aqueous solution of zinc chloride of 3.5 per cent. prevents the putrid fermentation of bones and *débris* in butchers' shops and slaughter-houses. It also prevents the transmission of septic bacteria existing in the meat to another organism by flies. This solution removes all smell and allows the material to be used for industrial purposes. M. Nocard considers a two per cent. solution efficacious.

The Outlook for Cholera in Europe.—The official reports indicate that cholera will prevail in Europe during the coming warm season as it did last year. The threatening sources of infection are Russia, Galicia, and Turkey, where the disease has been present throughout the winter. There has been no cholera in Belgium since the last week of November; three cases were reported in Germany in the last three weeks of December, and seven in Holland on December 8th. The disease appears to have been suppressed during the cold weather in all parts of Western Europe which were infected last summer and fall, Galicia excepted. In this province of Austria-Hungary, to which cholera was brought from the adjoining parts of Russia, and where the number of deaths last year was very large, the disease has prevailed throughout the cold season, the official reports showing 877 cases and 450 deaths in the period between December 3d and February 17th. At last accounts there was cholera in thirty-one governments or provinces of Russia.

Malaria as a Cause of Herpes Zoster.—Dr. James A. Winfield, of Brooklyn, has found plasmodia malariæ in the blood of several cases of herpes zoster.

Syphilis in Japan.—According to the recent report of the Japanese Sanitary Bureau, Japan has 1,401,226 prostitutes, of whom but 44,700 are syphilitic. The prostitute is subject to inspection and license in the Island Empire. The proportion of prostitutes to the population is nearly that of London, according to the figures of Jeannel, which are approximative and rather under than over the mark. The syphilis rate is less than one-tenth as great in Japan, where it must be remembered official medicine is on a level with that of Europe, and official inspection is not fettered by personal liberty claims. As prostitution in Japan does not debar from marriage, since citizens even of the middle class take their wives from the tea-houses, there is possibly widespread syphilization which would increase immunity to the disease.

Curious Evidence of a Medical Officer.—A man who was brought before a jury of Berlin had promised a woman in the latest stage of tuberculosis to cure her within three months. He had ordered her a medicine for which he charged twelve marks, the real worth being only twenty pfennigs. A fortnight afterward the patient died, and her family indicted the quack for

fraud. At the trial Dr. Long, medical officer at the Berlin law courts, was asked by the defendant's counsel if it was not possible to cure "consumption." Dr. Long answered that it would be as easy to fetch a star from the sky as to find a universal remedy for this illness. The defendant's counsel asserted that his client was as persuaded of the curative effect of his remedy as Professor Koch was of tuberculin, and could, therefore, not be made responsible because it was a failure. Dr. Long answered that in his opinion they were, both Dr. Koch and the defendant, guilty of the same crime, and he did not understand the public attorney only prosecuting the little and not also the great thieves. This allusion caused the utmost sensation in the court. The judge said he was sorry he must blame Dr. Long for comparing a scientific authority like Professor Koch with a quack. The defendant was condemned to three months' imprisonment.—*Lancet.*

Suicide in Chicago.—According to Coroner McHale, Chicago suicides have averaged one a day for the past three months. The average but equals that of the World's Fair year.

Intravenous Saline Infusions.—At a recent meeting of the New York Surgical Society, reported in the *Annals of Surgery*, Dr. Dawbarn stated his opinion that the amount of fluid usually recommended for intravenous infusion in hemorrhage was ridiculously small. A smaller amount than a quart will seldom be of much use, and in bad cases this should be repeated several hours later, as indicated. It is a bad rule to replace the blood lost at an operation only by an equal amount of salt water. The inward bleeding from shock, especially into the patient's own veins should not be forgotten. The chief advantage of infusion is the effect of the bulk of the fluid, which makes possible effective action of the heart.

Reviews and Notices.

TWENTIETH CENTURY PRACTICE. An International Encyclopædia of Modern Medical Science by Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In Twenty Volumes. Volume II., Nutritive Disorders. New York: William Wood & Company. 1895.

WE have received the second volume of this most ambitious work, and we must admit that the expectations that were raised by the first volume are more than fulfilled by the contents of the one before us. This volume differs from the one that preceded it in that the subjects treated of are wholly medical in their nature, relating for the most part to the results of disturbances in the nutritional processes. The first article is a short but instructive exposition of diseases of the supra-renal capsules by Sir Dyce Duckworth, of London. The subject is still one that calls for much study and investigation, but this article goes quite a way toward the solution of some of the problems connected with disease of the adrenals. This is especially the case in regard to degenerations of these bodies, the results of a number of original researches by Kanthack and others, hitherto unpublished, being here presented for the first time. The greater part of the article is naturally devoted to Addison's disease, which the author seems inclined to regard as anatomically, in many cases at least, a tuberculosis of the adrenals.

"Diabetes Vellitus" is the title of the second article, which is contributed by Von Noorden, of Frankfort-on-the-Main. We have been agreeably disappointed in this article because of its exceedingly practical character—a quality which we are not accustomed to look for in the writings of German physiologists and pathologists. About one-third of the article is devoted to the subject of treatment, the question of diet coming in for an extended discussion. Not the least interesting portion of the treatise is that relating to the nature and causes of diabetic coma.

The third article is on rheumatism and is very appropriately handled by the originator of the specific treatment of the disease, Dr. Maclagan, of London. Whether the reader agrees or not with the author as to the miasmatic nature of rheumatism he cannot read without interest the exposition of the theory here made, since it was upon it that Dr. Maclagan based his salicyl treatment, than which few therapeutic discoveries of recent years have been more efficacious in relieving suffering and saving life.

Following this is a very long yet readable article on gout, by the only American contributor to the volume, Dr. Henry M. Lyman, of Chicago. The section on pathology is interesting, and that on treatment seems to be thoroughly practical and detailed. The writer accepts in great part Garrod's theory as extended and elaborated by Haig concerning uric-acid formation and excretion.

Dr. Archibald E. Garrod supplies the article on arthritis deformans. He writes well, and the paper contains a presentation of the latest views on the subject, yet it is valuable chiefly, it seems to us, in showing how little is really known as yet concerning the true nature of this disease.

Following this is a treatise on diseases of the muscles by the late Dr. Dujardin-Beaumetz, of Paris. It does not include tumors or other surgical diseases of the muscles, but is confined to a description of the various forms of myositis and of the trophic myopathies. Only the essential muscular paralysis, so-called, are considered here, the reader being referred to the volumes on nervous diseases for a description of those which are due to some obvious nerve-lesion. As Dr. Dujardin-Beaumetz died in February last, this must have been one of the last works written by him, but it betrays no sign of weakness, being written in the same lucid, and what we might call reiterative, style which characterizes the many works of this most prolific writer.

Professor Oertel, of Munich, contributes the article on "Obesity," with which the volume closes. "Oertel's" is known as one of the most successful methods of treating obesity, and we are glad to find here a description of the method in the inventor's own words. In this article, as in that on diabetes, the section on treatment is recognized as the most important, and is the one to which the greatest space and the most detailed description are devoted.

We have been at some pains to test the index of this volume, and have found it very satisfactory. In a work of reference, or in any other for that matter, a good index is of such vital importance, that it seems but proper to note its presence or absence, as also its degree of excellence or the reverse. This volume will doubtless be welcomed by the general practitioner, for whom most of the subjects here treated are of absorbing interest, relating, as they do, to affections which are of common occurrence, yet of more or less obscure pathology. It is an encouraging sign to find so much space devoted to the therapeutic management of these diseases, for it is an evidence that the authors do not regard their treatment as hopeless. The work of translating the foreign articles has been well done, for they read as smoothly as though written originally in English.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 4, 1895.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Portrait of the Late Dr. Valentine Mott.—An oil portrait of the late Dr. Valentine Mott, copied from an original painting made in 1865, the gift of his daughter, Mrs. Isaac Bell, was presented, in a few appropriate words, by DR. ELY, at whose suggestion Mrs. Bell had had the copy made.

THE PRESIDENT, in some remarks accepting the generous and highly prized gift, said one could not express more forcibly the debt of the profession to Dr. Mott than to quote the words of Sir Astley Cooper, that Dr. Mott had probably performed more and greater operations than any living man.

The Late Dr. Loomis.—DR. POLK, of the Special Committee, read some resolutions on the death of the late Dr. Alfred L. Loomis, which will be found on another page. The meeting set apart for the memorial exercises will be held on the first Thursday in May, not the first Thursday in June, as announced previously.

Department of Charities and Correction.—DR. ANDREW H. SMITH, of the Special Committee appointed to consider the Advisability of separating the Department of Charities and Correction, read a report setting forth at some length reasons why there should be a division into two entirely distinct departments of the city's dependents and its criminals. The arguments were based upon such well-known facts as that the combined department had become unwieldly; the original act had contemplated their separation; there was no natural law of association of the dependents (including the poor, the sick, the blind, the insane, etc.) with the criminals; no official board could become expert in both branches, and indeed the very qualifications which fitted an officer for dealing with criminals unfitted him for dealing with dependents. To be sent to the "Island" cast a stigma upon the innocent dependent the same as upon the criminal; appropriations were refused the one class because associated with the other. The report concluded with the following resolution, which was adopted without opposition: "Resolved, That the New York Academy of Medicine respectfully urge upon the Legislature now in session the passage of an act by which the existing Departments of Charities and Correction in the city of New York shall be abolished, and two separate and distinct departments be created, one of Charities and one of Correction."

Diphtheria Antitoxin.—The following papers, to be found on pages 481 *et seq.*, were then read: 1, "Some experiences in the Production and Use of Diphtheria Antitoxin," by Dr. H. M. Biggs; 2, "The Technique of the Production of Diphtheria Antitoxin," by Dr. W. H. Park; 3, "Experiences in Diphtheria Antitoxin for Immunization," by Dr. G. H. Peck; 4. "The Autopsies on Persons Dying after Treatment with Diphtheria Antitoxin," by Dr. George P. Biggs.

Opposed to Antitoxin.—DR. JOSEPH E. WINTERS, in opening the discussion, said:

MR. PRESIDENT: Some months ago I shared with my colleagues the hope that a specific against the toxins of the diphtheria bacillus had been discovered, but three months of daily observation in the Willard Parker Hospital has been a sad—an extremely sad disappointment to me, and I regret to say that, as a result of that experience, I am here to-night to speak in opposition to the antitoxin treatment of diphtheria. My remarks will be based entirely on three months of daily clinical observation of the effects of the antitoxin in one hundred and fifty-four cases of diphtheria treated in the Willard Parker Hospital. In the paper of the evening reference has been made to the effects of the antitoxin on the pseudo-membrane of diphtheria. What I have to say with reference to this may be best illustrated by referring to four cases which were recently admitted into the Willard Parker Hospital in the course of one day.

Case I. had a few patches of pseudo-membrane in various portions of the throat, showing that the exudate had already exfoliated, only small portions of it remaining.

Case II. had pseudo-membrane on both tonsils, which was thick at the edges, and exfoliation had already begun, in some places being detached from the mucous membrane one-eighth of an inch.

Case III. was in the early stage of the disease process. The pseudo-membrane was thin at the edges, involving the tonsils and slightly the pillars of the fauces. At one point there was inflammation at the edge of the pseudo-membrane.

Case IV., a septic case, with an abundance of membrane on the tonsils and pillars of fauces and some on posterior wall of pharynx.

In Case I., where detachment of membrane was nearly complete before patient was brought to hospital, the throat cleared rapidly. In Case II. the exfoliation, which had begun at the time of admission of the patient, continued, but some membrane remained on pillars of fauces and on tonsils ten days after admission. Case III. was free from membrane for first time on tenth day after admission. Case IV., the septic case, lived three days. During this time, though thoroughly under the influence of antitoxin treatment, the antitoxin never made the slightest impression on the symptoms of toxæmia. These four cases may be taken as a sample of what I have seen repeatedly at the Willard Parker Hospital during the three months of antitoxin treatment of diphtheria. In not a single case has there been the least evidence that the formation of the pseudo-membrane was checked, that the exfoliation of the pseudo-membrane was hastened, or that the throat was free from membrane earlier than in cases which have not been treated by antitoxin. In not a single septic case has the antitoxin made the least impression on the symptoms. The toxæmia has not in one instance been relieved or lessened. There has been no indication in the character or frequency of the pulse, or in the general condition of the patient, that a specific for the toxæmia had been administered.

Reference was next made in the paper of the evening to the laryngeal cases of diphtheria, and I should like to ask the author of the paper and those who are supporters of the antitoxin treatment, why it is that antitoxin should be administered for the relief of the laryngeal stenosis due to a diphtheritic pseudo-membrane? While the diphtheritic process remains confined to the laryngeal mucous membrane there is no toxæmia. There is, therefore, no indication for the exhibition of an antitoxin. It has been stated in the paper that the death-rate in the laryngeal cases under the antitoxin treatment has been lower than under the methods of treatment in vogue before the use of antitoxin, but in so doing he compares results one year ago with the results during the past three months. The author has neglected to state to the Academy that at the Willard Parker Hospital, in the month of December last, we had eight *consecutive* recoveries after intubation in cases of laryngeal diphtheria without antitoxin. During the same month at the Foundling Asylum in this city, out of fourteen cases of intubation for laryngeal diphtheria there were twelve recoveries without antitoxin. At the Willard Parker Hospital in the month of December, 1894, the recoveries from laryngeal diphtheria without antitoxin were about seventy-five per

cent. This has never been equalled with the antitoxin treatment with or without intubation.

The paper of the evening deals largely with statistics. I wonder if the members of the Academy have noticed that the author treats the matter of statistics largely by elimination and exclusion. In comparing the results of antitoxin treatment with the former methods of treatment, in the antitoxin cases he excludes numerous deaths for one or another reason, while in speaking of the results before antitoxin treatment no deaths are eliminated. The facts are that during the first three months of 1894 the death-rate at the Willard Parker Hospital without antitoxin was thirty-two per cent. During the first three months of 1895 with antitoxin treatment the death-rate was twenty-eight per cent. But in order to make it clear to you that this mortality rate does not represent the exact state of things as it should, I will ask you to consider for a few moments the class of cases which have been brought into the Willard Parker Hospital for antitoxin treatment during the past three months. In many of these cases there has been no clinical evidence of diphtheria. They were cases of diphtheria from the bacteriological stand-point only. Examination of the nose and throat, examination of the constitutional condition of the patient, revealed no evidence of diphtheria. They had in the throat the Klebs-Loeffler bacillus, but the presence in the throat or in the nose of this bacillus, in the absence of any lesion, is not evidence of the existence of diphtheria. *I should like to know why antitoxin is used in cases where the presence of the Klebs-Loeffler bacillus is the only evidence of diphtheria, when it is a well-established fact that the antitoxin treatment has no influence on the bacillus—it persists as long in cases treated with antitoxin as it does in cases treated without it.*

During the first three months of 1894 no case of diphtheria was seen in the Willard Parker Hospital that did not have abundant clinical, as well as bacteriological, evidence of diphtheria. These cases of so-called "diphtheria" without any of the clinical manifestations of the disease, should be eliminated from the statistical report, and there have been a score or more of such cases during the past three months, and were these cases eliminated from the list, the death-rate under antitoxin treatment during January, February, and March would be much higher than it was during the corresponding months of 1894; and this, too, at a time when diphtheria is far milder than it was one year ago. Some of the cases brought to the hospital in February and many of those admitted in March are still very ill and will surely die. Were these included, the mortality during the antitoxin treatment would be startlingly high.

The author of the paper, like all others who have written about the antitoxin treatment of diphtheria, has insisted upon early treatment as a *sine qua non* for the best results, but the record from which Dr. Biggs has prepared his paper will show that the first two cases on the list which recovered had their first injection of antitoxin on the eighth and sixth days respectively.

In the next seven cases on the list the first injection was given on the fourth day in two cases, on the fifth day in two cases, on the third day in two cases, on the sixth day in one case, and all died. Case XXIV. on the list had first injection on the ninth day and recovered. One case, injection on second day, died. One case, injection on tenth day, got well, and one injected on the third day died; and so on throughout the list. It is not the date of first injection which determines the result, but it is the individual character of the case and the nature of the disease.

At the Willard Parker Hospital any case which, at the time of admission, has given evidence that the disease was progressive in its course, that course has not been stayed or changed in any particular by the antitoxin treatment.

It has also been stated that the serum used in the early part of the antitoxin treatment at the Willard Parker Hospital was so weak that little could be expected from it. A careful study of the record will show that the cases which were treated with the weaker serum did better than those which were treated with the stronger serum. Again, a study of the records will show that those who had the smaller dose of serum did better than those who had a larger dose. In fact, a careful study of the individual cases of diphtheria treated with antitoxin in the Willard Parker Hospital will show that there has been no relation between the antitoxin treatment and the recoveries. As to the early treatment of diphtheria with antitoxin, it may be definitely and confidently stated that diphtheria at the present time, almost invariably recovers under any method of treatment if brought under proper hygienic surroundings and surveillance on the first day of the disease. Diphtheria is scarcely ever fatal if the patient is put to bed and properly cared for on the first day of the illness. It is the *insidiousness* of diphtheria which constitutes its greatest danger.

Now as to some of the untoward or unfavorable effects of the antitoxin treatment. The rashes have been spoken of in the paper, and some of the minor features attributable to antitoxin, but the more serious effects of the antitoxin treatment have not been alluded to.

I will ask you to go with me for the time being to the Willard Parker Hospital and see some of the effects of antitoxin which I have witnessed there. Babies have been brought to that hospital with slight clinical evidence of diphtheria, babies, with the exception of a slight exudate in the throat, and perhaps a slight croupy cough, that were apparently healthy and with rosy color. They remained in good condition for perhaps ten days or two weeks after receiving antitoxin, when one day as you enter the ward you hear a moan, and approaching the crib you find the baby lying on its side with its head retracted, its arms and legs flexed, and moaning piteously. I can best make it clear to you what this baby's condition is by relating to you a case about which I was consulted. A physician came to my office to advise with me regarding his wife. Two weeks previously this lady had had a slight sore throat, and a medical friend had immediately injected her with antitoxin. The following day it was decided that she had no diphtheria, but a slight tonsillitis, and the throat was all but well. Fifteen days after the injection of antitoxin her temperature was 105° F., pulse 160, and she was suffering severe pain in all her joints. Sleep and rest were absolutely impossible except as obtained by large doses of morphine administered hypodermically. This was a case of antitoxin infection. In her case the antitoxin eliminated itself and the patient recovered. This is the condition in which I have seen many of the little babies in the Willard Parker Hospital. The temperature chart shows a record of 105° to 106.8° F., and a note of the night nurse tells that the patient has scarcely slept at all. This antitoxin infection pursues one of two courses, either the symptoms may gradually subside, leaving the baby emaciated and extremely anæmic, or there may be a fluctuating temperature, ranging from 99° to 106.8° F. and existing for days together. What is this condition? It is due to the action of the antitoxin on the blood. *Horse serum dissolves human blood corpuscles, and thereby produces new elements of decomposition. The condition of the babies just spoken of was one of antitoxin septicæmia, and brought about by the influence of the antitoxin on the blood.* A further evidence of septicæmia was in occasional suppurations, as seen in one case in the neck and ear, in another in small points of suppuration in various portions of the body. In these cases we have a temperature range such as has not been seen in the hospitals of this city since the introduction of aseptic surgery. This is a temperature

range such as we used to have in the surgical and maternity wards of Bellevue Hospital twenty years ago.

It has been said here to-night that many of these cases treated with antitoxin have not died from diphtheria; that an autopsy has proven that the babies had recovered from diphtheria, and that the lesions proved that they had died of pneumonia after recovery from diphtheria. *This pneumonia in the Willard Parker Hospital during the past three months has come on late in the course of the disease, and they have been such pneumonias as were seen in Bellevue Hospital when they were having a great deal of septicæmia there. They are the pneumonias of septicæmia, and this septicæmia was induced by antitoxin.*

A second form of antitoxin infection was seen in the case of a little girl, aged thirteen months, admitted March 22d. Given the first injection of antitoxin immediately; temperature before injection, 101.6° F. Temperature six hours after injection, 104° F. Second injection, March 23d; afternoon of same day, kidneys ceased to act. Hot pack and other methods of treatment resorted to. Baby died, in spite of all treatment, on the afternoon of March 26th.

Dr. Lennox Browne has reported a total of eight cases of diphtheria treated with antitoxin; death resulted in six cases, all due to inflammation of the kidneys. Benda found nephritis in thirty-three cases out of thirty-nine who had died under the antitoxin treatment.

An instance of antitoxin infection through its action on the nervous centres occurred in a baby, aged two years and four months, admitted March 19th. Temperature, 101.2° F. on admission. First injection of antitoxin at 6.30 P.M. Baby had restless night. At 5 A.M., on the 20th, temperature was 105° F.; at 5.45 A.M. baby was in convulsions, and died at seven o'clock in convulsions, death resulting thirteen hours and fifteen minutes after injection of antitoxin.

The third case of immediate bad result with antitoxin was in a baby, aged eleven months, admitted March 29th. Temperature, 101.8° F. on admission. First injection, day of admission; second injection, following day. About twenty-four hours after admission, baby's temperature was 105.8° F.; convulsive movements of the eyes were noticed. Careful examination revealed no evidence of organic disease. Baby was in semi-stupor, respirations twenty-eight to the minute. Pulse rapid, irregular, and intermittent. March 31st, temperature, 106.8° F.; convulsions general. Baby died 2.30 A.M., April 1st, in convulsions. Temperature, 108° F. an hour before death.

Autopsies asked for but not granted in any of these cases. Physical examination revealed no evidence of organic disease in either of these cases; they were unquestionably cases of antitoxin poisoning.

This brings us to one of the most important considerations in connection with the subject of antitoxin treatment of diphtheria, namely, individual susceptibility to the action of remedies.

There is in this room to-night a physician who, about a year ago, came very near dying from the influence of a single dose of $\frac{1}{10}$ grain of atropine. He is organically healthy, and was well at the time with the exception of a slight coryza. Anyone of us in this room might have taken the same dose or double the amount without suffering any ill effects. This is one instance of individual susceptibility. As we all know, one person is specially susceptible to the influence of morphine, another to the influence of atropine, and so on throughout the entire list of remedies. So some individuals are specially susceptible to the influence of antitoxin. When this susceptibility exists or to what extent can never be known beforehand. It was the existence of this special susceptibility which caused the antitoxin to produce its fatal effects in the cases here enumerated. It was the existence of this special susceptibility or idiosyncrasy in the case of Miss Valentine which caused her unfortunate death from a single injection of antitoxin. That the antitoxin which was used in her case was all right in every way has been officially certified to by the Board of Health of this city and of Brooklyn. The fault was not in the antitoxin used, but in the special susceptibility of the patient. This same antitoxin might have been used on another person without producing any ill effect. We know nothing of this individual susceptibility beforehand, and any physician who uses antitoxin takes the risk of bringing about the results which I have described to you as having occurred in the Willard Parker Hospital, and the result which occurred in the case of Miss Valentine.

A case parallel to these is reported in the *British Medical Journal* of March 2d, p. 505. A well child, three years of age, was given an immunizing dose of 2 c.c. of No. 1 Behring serum. The next morning the child was depressed. On the following day she had fever and violent pain in the lumbar region, and the urine contained a considerable quantity of albumin. The next day the temperature was 103° F.; petechiæ appeared on the legs, and the day after the child died.

In summarizing, I oppose the antitoxin treatment of diphtheria first, because in an experience of one hundred and fifty-four cases during the months of January, February, and March, 1895, in the Willard Parker Hospital, I have failed to see the slightest evidence that it neutralized the toxæmia in a single case. I have never found that it exerted the slightest influence for good in a single clinical manifestation of the disease—on membrane, pulse, temperature, gland swelling, laryngeal symptoms, etc. Everyone of these cases has been examined daily; they have been examined with care and with great solicitude, and with a desire to discover some evidence of the virtues ascribed to antitoxin by others.

Secondly, *I oppose it on account of its immediate danger to life, through its influence on the kidneys and on the nervous system, and remotely, through its influence on the blood.*

Conservative.—Dr. George L. Peabody thought there was sufficient evidence so far collected to show that in the antitoxin treatment of diphtheria we had a complicated problem to deal with. To judge of the result we must know all the facts bearing upon each particular case. As Dr. Winters had stated, the bacteriological diagnosis was often unsatisfactory. He had, for instance, given an injection of antitoxin to a governess with a sore throat suspected to be diphtheritic, and sent cultures from her throat and that of several children with whom she had come in contact to an able bacteriologist, and the report was that the Klebs-Loeffler bacillus was in all the cultures but one, the exception being that of the governess. None of the children were sick. But that did not invalidate bacteriological work. It was a serious problem what to do with persons in a house where there was diphtheria who themselves had simply the Loeffler bacillus in the throat. Personally he would not be willing to expose such a person to the contagion of a hospital ward, yet he would not be willing to give him a clean bill of health and permit him to associate with others. The bacillus might be present, yet the person escape for want of receptivity.

His personal experience with antitoxin had been limited, yet he had convincing proof of its value, having seen the membrane melt away under a single injection as it had never done before under either local or constitutional treatment. He had seen untoward symptoms in a young lady injected by a physician in New Jersey. The throat cleared up promptly, but six days after treatment an urticarial eruption came out, and the patient suffered a week with symptoms of septicæmia, such as rapid fluctuations of the temperature, sweating, prostration, and pains in the joints. She ultimately recovered entirely. There was such convincing evidence of the value of the remedy from unbiased

sources, especially from Europe, that he could not but feel that it was deserving of credence.

Favorable Testimony.—Dr. L. Emmet Holt was satisfied that the antitoxin treatment of diphtheria was of value. Up to this time he had seen no bad results. His experience had been limited to twenty cases, all in small children in institutions except two. Every case had got well except one, that of a marasmus child. He repeated that he had seen no unfavorable symptoms, and if he himself had a child with diphtheria he would inject it with antitoxin.

Dr. Somerset, referring to Dr. Winters's remarks as to the mild character of the cases treated at Willard Parker Hospital, said that, of course, the hospital was not conducted for the purpose of making statistics for antitoxin treatment, but rather for the purpose of taking care of diphtheritic patients sent there, and under instructions from the Board of Health all the cases were, according to the best judgment of those in charge, treated by antitoxin. Certain cases having been referred to as mild cases, with rosy cheeks and croupy cough, Dr. Somerset said he could not recognize in a case of croup one of mild diphtheria. As to cases dying within twenty-four hours, he thought that was the rule, rather than the exception, in cases of croup. As to certain ill effects ascribed to antitoxin, he had been in Willard Parker's sixteen months, and could remember very well that before the use of antitoxin cases occurred in which there were irregular rises of temperature, rashes, and symptoms regarded more or less unfortunate. They were then ascribed to digestive disturbance, while now antitoxin got the whole credit. As to the influence of antitoxin in fatal croup cases, he had compared twenty-four such fatal cases during the pre-antitoxin period with the same number since, and had found that all of the former deaths had occurred within six days, while only half of the deaths under antitoxin treatment had occurred by the sixth day. Without antitoxin treatment membrane was found below the larynx usually, while in none of the autopsies on cases dying after antitoxin treatment had he seen membrane below the larynx. In the first class, if pneumonia developed it was in the first four or five days, in the second, it did not appear until much later as a rule.

Dr. Winters made some further remarks, and said that the pneumonia coming on after antitoxin treatment appeared late, occurring with or after evidences of septicæmia.

Defends His Statistics.—Dr. Herman M. Biggs made some concluding remarks. He said Dr. Winters had omitted to explain why the mortality from diphtheria under the antitoxin treatment, even if nothing were eliminated, was still ten per cent. lower than it was last year. Could one who was an unprejudiced observer, make the statement that there was little diphtheria of a severe type in New York when the statistics showed that there were two thousand eight hundred deaths from the disease for the year ending January 1, 1894? Many statements, and many inferences drawn by Dr. Winters were, he said, distinctly untrue. It had been asserted in a very dramatic manner that of septic cases treated in the hospital with antitoxin, not one had been improved. In reply it had been sufficient to say that from the beginning it had been shown that antitoxin was only of value to neutralize diphtheria toxin; it did not neutralize sepsis, it did not neutralize bronchopneumonia.

He would like to know where Dr. Winters's information came from that there was no absorption from the larynx. Antitoxin did good in croup cases because it neutralized diphtheria toxin; it reduced the inflammatory swelling, and it prevented extension of membrane.

In reply to the statement that the statistics were the result of a process of elimination, he would say that no cases were eliminated except those which died within twelve hours, with two further exceptions. Cases dying within twelve hours were justly eliminated because antitoxin was not expected to exert its influence immediately; it did not produce its effects for twelve hours.

The two other cases which were eliminated were cases in which the treatment was discontinued. As to the severity of the type of disease existing since antitoxin treatment had been introduced, he could prove by statistics that the severity was greater than prior to this period.

Then, too, the statistics from Berlin, Paris, and other cities, all coincided in the fact that the mortality from diphtheria since the introduction of antitoxin treatment had been greatly reduced. All of this could not be explained on the basis of coincidence.

Further, it had been repeatedly stated that antitoxin treatment to be of much value must be resorted to within three or four days. As to the Willard Parker Hospital statistics, he had accepted them as they had been given him by the staff. He had personally had nothing to do with making them. They were poorer than those made by the inspectors, included in his report. Regarding cases in the hospital without diphtheria, no cases were taken there which had not at least been reported to the department by physicians as cases of diphtheria and in which the diphtheria bacillus had been found.

So far as his own knowledge extended none had been injected and included in the report as diphtheritic cases on the basis of the presence of diphtheria bacilli without lesion.

Dr. Biggs would like to know from whence came the information that horse serum injected in man dissolved the red blood-corpuscles. It was a new fact in physiology to him.

As to the value of a bacteriological diagnosis of diphtheria, everyone who had had any considerable experience in the treatment of throat affections long before bacteriological examinations had come into vogue agreed that in a certain proportion of cases it was impossible to make the diagnosis of diphtheria; that cases which seemed to be follicular tonsillitis or simple pharyngeal inflammation were sometimes diphtheritic, as shown by subsequent complications. The investigations of the Health Department the last two years had shown repeatedly that persons might have diphtheria bacilli in the throat for a long period of time, that they might infect others long after their own primary attack, and that the latter persons might have virulent diphtheria. These were not questions of opinion, but of absolute demonstration. In a communication made by the Health Department more than a year ago it had been distinctly stated that a considerable proportion of normally healthy people who came in contact with persons with diphtheria had diphtheria bacilli in their throats, and that they might infect other persons and might contract the disease themselves. They had not changed their opinion on that point. But they did not send these cases to the hospital.

Dr. Biggs claimed that Dr. Winters had shown from the beginning of the antitoxin treatment at Willard Parker Hospital profound distrust of the method. In conclusion, he would say that so far as he knew there was not a single distinguished clinician, pathologist, or bacteriologist in Europe who had not accepted the new treatment of diphtheria as the most important advance in therapeutics in modern times.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, March 28, 1895.

H. C. Coe, M.D., Chairman.

Uterus and Vagina in a Case of Sepsis Following Criminal Abortion.—Dr. Simon Marx presented the uterus and vagina of a young woman who had recently died of sepsis following criminal abortion, produced by a

midwife at about the fourth month of pregnancy. He had seen the patient the fifth day, when the question of laparotomy for septic peritonitis arose, but the case had progressed too far to resort to this measure. At the autopsy pus was found everywhere among the intestines, even up to the liver, showing the uselessness of doing laparotomy in acute general septic peritonitis. A point of special interest was the fact that, notwithstanding this condition of sepsis in the abdomen, the uterus and vagina were perfectly clean and contained no detritus. The tubes and ovaries were normal and a corpus luteum of pregnancy was present.

The CHAIRMAN remarked that anatomically it was very difficult to prove criminal abortion.

DR. PRYOR had seen a similar case of abortion at the fourteenth week. The pelvis was perfectly normal, and the woman died of ulcerative endocarditis caused by the streptococcus pyogenes.

Instruments for Vaginal Hysterectomy, etc.—DR. GARCEAU, who was introduced to the Section by Dr. Pryor, exhibited a set of instruments for use in vaginal hysterectomy, etc. Special attention was called to the retractors, made very broad, and giving an amount of room which would seem incredible to one who had not used them.

Malformed Fœtus.—DR. F. H. STUART presented a malformed fœtus, born dead at term, the second pregnancy of a woman of twenty-one, the first child having been normal. The malformation related to the hands, feet, labia, and spina bifida. The feet and hands were turned in, there was webbing, absence of the thumb in one hand, partial thumb in the other, etc. The labia minora were not anchored above, thus bringing down the clitoris. Dr. Stuart said he had never before seen varus of more than two of the extremities, while here it was present in both feet and hands.

DR. GARRIGUES remarked that spina bifida was very often accompanied by other deformities.

The Physiological Effect and General Therapeutic Action of Periodic Induced Currents in Gynecology.—DR. AUGUSTIN H. GOELET read the paper. Periodic induced currents included the faradic or interrupted induced, the alternating, and the static induced currents. The alternating and static induced currents were similar in their action to the faradic current derived from the secondary coil of long wire, being high-tension currents, or currents possessed of a high degree of electromotor force and an almost inappreciable volume or ampèrage. As ordinarily employed, they were currents of high frequency, and in many of the most essential features the effects produced were the same. But they differed widely from the faradic current derived from the secondary coil of short, coarse wire. The latter was a current of much lower E. M. F. and very considerable volume or ampèrage compared with the high-tension currents already mentioned, and its action was entirely different and could not be supplanted by them.

The faradic current could be regarded as practically an interrupted induced current, a current of one direction endowed with polarity, for while it appeared to be alternating through low resistances, yet in the human subject only the break current was felt, being thirteen times stronger in E. M. F. than the make current. That this current exerted an electrolytic action was shown by inserting the electrodes terminating in fine platinum wire into a solution of starch containing some iodide of potassium. The current produced a discoloration at one pole, due to the formation of iodide of starch.

But the electrolytic action was so slight that it might be disregarded except in its effect upon the nerves, diminishing functional activity when passing against the direction of the nerve current, and increasing it when going with the nerve current. In this respect the interrupted induced current possessed an advantage over the alternating, which was being constantly reversed and had no polarity.

The Comparative Average and E. M. F. of the Long and Short Wire.—The stimulating property of the currents depended upon their volume, which in the case of the faradic current could be varied by changing the length and size of the secondary coil, the short, coarse wire having less internal resistance and greater volume, the long, fine wire having greater internal resistance, less volume, but greater E. M. F. The cheaper forms of faradic apparatus were practically worthless, having but one length of wire. The modern induction apparatus was so constructed as to give ten different currents from as many different lengths and three sizes of wire, and afforded great variation in the quality of the current. In this regard it was also superior to the alternating and static induced currents derived from machines as now constructed.

The most noticeable effects of periodic induced currents was a muscle, nerve, and circulatory stimulation. The degree and nature of this stimulation depended upon the E. M. F. and ampèrage and the number of interruptions. In the faradic apparatus the stimulation of the current was governed by the length and size of the wire composing the secondary coil, which regulated the E. M. F. and ampèrage of the secondary current, the force of the primary current being constant or nearly so. The rapidity of the interruptions was controlled by the automatic vibrator in the primary current. The advantage of a number of secondary coils having different lengths of the same wire and different sizes of wire was that the stimulating property of the current might be conveniently and gradually increased as desired.

In the alternating machine now on the market the windings were all the same, hence the stimulating property of the current, which was a secondary, depended upon the strength of the current supplied to the primary fields. The E. M. F. and rapidity of the alternations as well were increased by increasing the speed of the machine, *i.e.*, by increasing the revolutions of the armature or revolving disk. The volume of the current could not be greatly varied.

In the static induced current the size of the Leyden jars regulated the volume of the discharge, and the air-gap between the discharging rods regulated the rapidity of the impulses.

The effect of the short, coarse wire in the faradic machine was to produce muscle stimulation; of the long, fine wire, to produce nerve stimulation. They markedly influenced tissue change. The following explanation was offered: 1. By exciting an increased vermicular contraction of the smaller arteries the blood-pressure was augmented. This caused momentary distention of the capillary vessels, the reaction from which, owing to their elasticity, emptied them into the veins. In case of any obstruction in the capillary vessels this distention, together with blood-pressure, favored its removal. 2. By stimulating contraction of adjacent muscles the veins were emptied and a void was created in their inter-valvular spaces which invited the blood from the overloaded capillaries. Increased activity of the lymphatics was brought about by stimulating absorption and by the contraction of neighboring muscles, hastening the flow of lymph. As a result of this action upon the capillary circulation and lymphatics pelvic congestion was relieved and rapid absorption of exudations was accomplished.

But perhaps the most important effect of periodic induced currents of high E. M. F. and great frequency was the production of sedation and the relief of pain. They acted more especially upon the sensory nerves, and could be made to produce either irritation or sedation. The former when applied in strength sufficient to produce slight irritation, the latter when applied so as to be scarcely perceptible, the current being increased as insensitiveness became apparent. The former, the exciting effect, was desired in pelvic exudation with little sensitiveness; the latter, or sedative

effect, where there was pain and an acute congestion. In the first instance, five or ten minutes' application might suffice, in sedation fifteen or twenty minutes were necessary to produce a satisfactory result. The more rapid the interruptions the more soothing the effect. In using the coarse wire for muscle stimulation the interruptions should be slow, so as to allow alternate contraction and relaxation similar to the normal physiological action of the muscle.

For stimulation three séances a week might be sufficient, for sedation one or more a day were required. As a therapeutic measure for the relief of pelvic pain and congestion, and pelvic inflammations and their results, infiltrations and exudations, this form of electricity was incomparably better than any other agent. It was often absolutely curative, although frequently it served as only an auxiliary to other measures. The coarse-wire current was particularly serviceable where there was loss of muscular tone and venous engorgement, as in subinvolution, but it was contraindicated in sensitive and inflamed conditions.

Dr. Goelet had purposely laid more stress upon periodic currents of high frequency and high E. M. F. because they covered a larger field of usefulness. Hot water, which, under the advocacy of Dr. Emmet, had for so many years been our mainstay in pelvic diseases, sank into insignificance when compared with this current properly used. The trouble was that, like the hot-water vaginal douche itself, the current was so often misapplied.

The Evolution of Hysterectomy in America.—Dr. Ernest W. Cushing, of Boston, read this paper. While the first operations for removal of the uterus were done in this country, yet to no man belonged the exclusive credit of the perfected operation of to-day. It had been a growth, rather than a sudden invention. Burnham, of Lowell, was the first to successfully do hysterectomy, 1853, and was soon followed by Kimball, of the same place, who removed the uterus for a myomatous tumor. Their method of operating was followed for many years, and their results were good when we considered that at this time only the worst cases fell under the knife and antisepsis had not yet been developed. Their mortality was about seventy-five per cent. Burnham performed no more hysterectomies after 1876, and, owing to the fatality of the procedure, only isolated cases were reported for some years subsequently, attention being turned to less radical procedures, such as the use of the cautery, removal of the appendages (Battey, Hegar), injections of ergot. Then came the Schroeder and Marcy improvements upon Kimball's method of treating the stump, Marcy writing in 1881. Dr. Cushing thought Dr. Marcy's method was probably the best one for eight years, or until ligation of the uterine arteries in their continuity was introduced by Stimson. There was no prominent improvement in hysterectomy for ten years prior to 1888, attention having been directed almost entirely to perfecting Schroeder's method of fixing the stump in the abdominal wound.

In February, 1888, Dr. Mary Dixon Jones described a case in which she opened the vagina. When Bantock visited this country in 1887, his method of extra-peritoneal treatment of the stump had reached such a state of perfection that it was resorted to almost exclusively. But in 1889 Dr. Stimson read a paper describing the ligation of the uterine arteries in their continuity, and opening up a procedure which was soon destined to replace the extra-peritoneal method almost entirely. It initiated wide resort to abdominal extirpation of the uterus for various conditions. Eastman, in 1887, had already published his modification of Schroeder's method. In October, 1891, Joseph Price had operated on two cases, opening into the posterior vaginal fornix, modifying and improving Jones's operation, yet he favored Bantock's method and continued to do it with great success to this day. Efforts had not been wanting to get rid of clamps on the stump—Poik, Kelly, Byford. In connection with the intra-peritoneal treatment of the stump the work of A. P. Dudley and J. R. Goffe was referred to, the latter reporting four cases treated by his method in 1890, leaving a cervical stump, covered by peritoneum; but since in all there was a rise of temperature about the fourth day it pointed to lack of drainage, and the cervix had to be dilated. To avoid this danger of infection, some had cauterized the stump and dilated, some had introduced no ligatures into the cervix, others had removed it with the uterus.

About this time, Boldt was using the method of Martin, closing the peritoneum entirely and leaving the vagina open.

In New York, a further development of hysterectomy was made by the introduction of the Trendelenburg position by Dr. Florian Krug. In 1892, Polk read a paper at the meeting of the American Gynecological Society, describing his method of supra-vaginal hysterectomy, which made a very strong impression, and led many to abandon entirely the extra-peritoneal fixation of the stump. At the same meeting, Baer read a paper, describing a treatment of the stump, which Dr. Cushing said was essentially that of the Vienna operator Krobach. The next step related to the application of hysterectomy, Dr. Polk, supported by Dr. Krug, advocating it in 1893 in all cases of disease necessitating entire removal of both tubes and ovaries. There were many, however, who still preferred to leave hysterectomy in such cases for a future operation in the event that it should be required.

At present, the question of choice of route was occupying the attention of the profession, and it seemed that general surgeons inclined toward the abdominal method, while gynecologists had been more impressed with such advantages relating to the vaginal route as avoidance of shock, liability to hernia, etc.

The paper contained statistics of hysterectomy performed in this country and an analysis of the mortality rate by the different methods of operating.

The paper was discussed by Drs. Stimson, Baldy of Philadelphia, Polk, Krug, Rickets of Cincinnati, Goelet, and the author made some concluding remarks.

Dr. Goelet offered the criticism that among palliative measures, scarcely any mention had been made of tying the uterine arteries. There were cases of uterine myoma which had been completely relieved by this procedure, and there were others of the serious type with a pedicle which could be removed without taking away the uterus.

Parisian English.—The Paris correspondent of the *Lancet* writes that, "summoned to attend the child of one of my patients the other day, I found that, alarmed by baby's serious state, a French *confrère* had already been sent for and left directions which a neighboring French druggist had translated for the benefit of the English nurse in charge. The document is too amusing to be passed over, and I therefore make no apology for transcribing it, together with the necessary explanation within parentheses supplied by myself: 1. To distend the children of other children. (To isolate the baby from her sister.) 2. Not many flower in the eat and not give him that milk prepared. (Suppress farinaceous food and also the milk as hitherto prepared.) 3. Before the col of children une éponge warm. (Apply a hot sponge to the child's throat.) 4. Everybody that have occupation of children wild vhach the hands in liquor of van Swieten. (Every person coming in contact with the child to wash his hands in van Swieten's solution.) 5. All the linen deteriored shall be whach in solution before londres. (All soiled linen to be washed in the solution before being sent to the laundress.)"

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEDICAL SOCIETY—SIMULATION OF TUBAL GESTATION—GYNECOLOGICAL SOCIETY—DANGER OF MORPHIA IN FEMALE MALADIES—INFLUENZA—QUESTIONS IN PARLIAMENT.

LONDON, March 30, 1895.

ON Monday last the subject of tubal gestation was before the Medical Society. Mr. Sutton contrasted a case in which rupture had occurred with one in which the symptoms were simulated by a large uterine myoma with ordinary pregnancy. The diagnosis was so uncertain that delay in interference was decided on, and during the delay abortion occurred. The fœtus was one of about three months. Nine days later serious abdominal symptoms necessitated operation for removing the fibroid, when uninterrupted recovery followed. Cases were mentioned by other Fellows in which tubal gestation had simulated other conditions and *vice versa*. In one Mr. Bidwell bravely related how in breaking down the adhesions formed between the sac and the ileum he had made a rent in the intestine. This he proceeded to resect to the extent of five inches, joining the ends by Maunsell's method. Happily the patient made an excellent recovery, but some criticism was offered on the mishap, and the general opinion seemed to be that it should not be allowed to occur. Mr. Doran thought tubal gestation more frequent than formerly, and said the changes brought about by it differed considerably from those due to inflammation of an ordinary kind. Mr. Cripps said that operation was imperative when hemorrhage took place into the peritoneum, but when into the broad ligament it was wiser to leave it to nature. Dr. Herman said that in cases having a history of reported hemorrhage into the peritoneum it was better to operate at once than to wait until a profuse hemorrhage endangered life. Dr. Lewens had had a case in which twelve months after removal of a gravid tube symptoms of a recurrence in the opposite side occurred. The condition proved to be cystic degeneration of the remaining ovary together with the commencement of normal pregnancy.

The surgical aspects of gynecology have been so prominent that it is quite refreshing to have attention imperatively demanded to the medical side. This has been done by Dr. Macnaughton Jones in a paper on "The Dangers of Morphia in this Department of Practice," read before the British Gynecological Society. Dr. Jones described in a picturesque manner the neurotic women who were likely to become victims to the morphine habit, and showed how great is the danger of prescribing the drug in their cases. The resort to the hypodermic method is the greatest danger of all, and many female morphine maniacs date the commencement of their habit to its use. The responsibility is not, said Dr. Jones, sufficiently recognized in gynecological practice, and he was supported in his conclusion by other speakers. It is to be hoped, therefore, now that a fresh protest has been made, the syringe will be less indiscriminately used. I have many times seen the evil of entrusting this little instrument to the patient or the nurse, and have vigorously protested against this common fault. I am glad, therefore, that Dr. Jones brought up this point, and that others join in the denunciation of a practice which is fraught with danger. Some men denounce chemists for selling morphia, and yet they have themselves instructed patients in its hypodermic use.

Influenza still holds its own as a topic of the day, although it has further declined. The deaths primarily referred to influenza in the last week's returns were 225, of which 37 were persons under twenty and 115 of those over sixty years of age, showing how fatal the disease is in advanced life. Notwithstanding the decline in the deaths, it seems that the severity of the cases is by no means less marked, and doctors are anxious about those which at the onset seem slight. The deaths from the whole class of respiratory disease are still in considerable excess of the average, although there was a fall in the actual weekly number. The Duke of York has had a mild attack of the epidemic, from which the public are assured he is convalescent. Lord Rosebery is overcoming the insomnia which followed his attack. Notabilities of all kinds have been reported as attacked, which is only what might be expected in such an epidemic. Medical men have naturally suffered much and several more victims have fallen.

In Parliament there have been some questions of interest to the profession, though no results are apparent. Thus the imbecile and epileptic children in workhouses, the accommodation for the insane, potato disease, the vaccination commission, substitutes for butter, and pleuro-pneumonia have all been mentioned, but no really definite information has been elicited. Still the mention in the House may be of benefit.

OUR PARIS LETTER.

(From our Special Correspondent.)

INFLUENZA — SERUM "ANTIDIPHTÉRIQUE" IN THE FRENCH ARMY—DISCUSSION ABOUT RHYTHMIC TRACTION OF THE TONGUE IN APPARENT DEATH—PUBLIC HEALTH—CABS AND ASPHYXIA.

PARIS, April 1, 1895.

THE epidemic of influenza that has prevailed with more or less severity in Paris during the last few months is sensibly diminishing; in fact, the cases, with rare exceptions, have all been of mild type, the usual complications being bronchial catarrh or pneumonia, in which latter the complication assumed an infectious form and rapidly proved fatal. The writer saw one case that was diagnosed as meningitis by several eminent physicians, so exactly did the symptoms represent the group we are accustomed to find in real meningitis. Indeed, influenza is somewhat like hysteria, in that it assumes an almost endless variety of forms—cardiac, bronchial, stomachal, cerebral, renal, intestinal, vesical, and, above all, hepatic. All or any of these usually yield promptly to antipyrine, the great French specific. A little quinine is added, and the strength kept up by wines, spirits, and broths.

The treatment of diphtheritic affections in general by injections into the *flanc* of the now famous horse-serum has reduced the mortality to such an extent as to make deaths from the dread disease quite the exception. Hundreds of thousands of francs have been raised by the *Figaro* and in other ways, so that the serum is now supplied to the poor gratis. This is not only the case in Paris but all over France, and the monetary resources of the Institut Pasteur have recently had such an accession that the Minister of War, in order to assure the treatment of diphtheritic affections in the active army by sérothérapie, and to facilitate the application of that method in all garrison centres, has just decided to have placed in the sanitary service of each army corps a supply of the serum and syringes of a special model—that used at the Institut Pasteur.

Laborde's method of resuscitation in cases of apparent death by drowning and in apparent death of the new-born, has raised considerable discussion, being mainly opposed by Professor Pinard, of the Baudelocque Lying-in Hospital, who has tried it in his wards and finds it vastly inferior to resuscitation by insufflation. He is willing to admit that rhythmic tractions on the tongue are of great efficacy when it is a question of adults, and more especially with apparent death by drowning. Insufflation by Ribemont's tube was practised upon 17 infants; and, although 11 of them died,

respiration was nevertheless re-established; in the 6 other cases the combined methods were used, that is, insufflation and rhythmic tractions on the tongue. Caution is necessary not to rupture the air-sacs of the lung by too brisk insufflation.

The last *Bulletin Hebdomadaire de Statistique Municipale* reports the number of deaths in Paris somewhat below the average for March. Especially noteworthy is the extremely low rate from typhoid fever, there having been only two deaths during the last week instead of twenty-two, the average. This is due to the excellent drinking-water with which the city is now provided.

Although the spring days are come, yet the cab companies still continue with their chaufferettes filled with charcoal; consequently there have been several cases of partial asphyxia from this cause, characterized by a sense of tightness around the head, flushed countenance, often violent headache with inability to move, dulness of reflex, and altogether a state that recalls lethargy and is the beginning of real mortal asphyxia. Fortunately the persons were found at the end of the drives, which are generally not very long, and no actual deaths have as yet occurred.

CASTRATION FOR ENLARGED PROSTATE.

To the Editor of the Medical Record.

Sir: The letter by Dr. L. Bolton Bangs which appears in your issue of April 6th has much interested me and has decided me to publish at once the following case, which shows improvement so remarkable as to be practically a cure, following castration for enlarged prostate. The case is one which has been carefully watched, both before and after operation, by at least three observers who may be considered competent. There was no lack of attempt at palliation by the usual methods before resort to the castration.

M. M——, a private patient in Mt. Sinai Hospital in Dr. Gerster's service, was fifty-six years of age, and the father of a family. He was a merchant by occupation and lived in one of the Southern States. For about ten years he had been troubled with frequent micturition, with occasional attacks of vesical tenesmus, and with a gradual increase in the severity of his symptoms. About three years before coming to the hospital he had been catheterized for an attack of retention, but the exacerbation was of short duration. Still, from this time he had to be catheterized with gradually increasing frequency until, on admission to Mt. Sinai, he was in constant pain and felt an urgent desire to urinate at least once an hour during the night. By day his condition was much worse, the attempts at emptying the bladder occurring about every five to fifteen minutes. His urine was alkaline, and there was a severe cystitis, with great quantities of pus and bloody mucus. A full-sized sound entered the bladder without difficulty. Dr. Gerster examined the prostate by rectum, and found it enlarged to about three times the normal size, but the cystoscope showed a well-marked middle lobe, which was thought to be responsible for the trouble in evacuating the bladder. For six weeks the patient was treated by catheterization, washings of the bladder, diuretics, oil of wintergreen, and other internal antiseptics, but without improvement. Indeed, the man grew constantly worse. He was now emaciated, was thoroughly exhausted and in a truly desperate condition. Dr. Gerster had proposed castration, but the patient had refused. The service now changed and I came on duty. At my first examination of the prostate by rectum I found the body about as big as a good-sized egg, not particularly tender to touch, but very firm and resisting. I made no cystoscopic examination, but accepted the positive observation of Dr. Gerster. When castration was again proposed the patient had become so hopeless that he decided to take his chances with the operation. At my request Dr. Fluhrer saw Mr. M—— and examined him. He also diagnosed the case as one of enlarged prostate, and on learning that the treatment above outlined had been followed by no improvement whatever in six weeks he agreed with me as to the advisability of castration.

On February 9th, under chloroform anesthesia, I removed both testicles, which were nearly normal. There were signs of very slight bilateral epididymitis. The wounds were closed without drainage and the patient was out of bed in six days. The patient was catheterized every six hours, and his bladder was washed twice daily. For the first twenty-four hours there was a slight remission of symptoms, but on the third day he was almost as bad as ever. From the fifth day there was, however, steady and miraculously rapid improvement. Before the operation and immediately after, he could urinate only by drops, and there was always four to six ounces of residual urine. If he had allowed his bladder to become distended practically all the urine was "residual," so that frequently at such times, after the man had exhausted himself trying to pass his water, ten ounces were withdrawn by catheter. The first improvement noted was that patient could pass a stream. The residual urine rapidly diminished, the cystitis vanished, and in four weeks I presented him at a meeting of the Genito-urinary Section of the New York Academy of Medicine. At that time he could hold his urine two hours at a time without discomfort, he passed a moderately powerful and full stream, and best of all there was but one ounce of residual urine. The urine still contained some pus but no mucus. It was acid and of the normal odor. The man had gained many pounds in weight and enjoyed life. He could go to the theatre and could make the journey to Brooklyn, where he had relatives, without suffering by the way. It is needless to say that he is most grateful for what has been done for him. He does not for an instant mourn the loss of his testicles.

No cystoscopic examination was made after the operation, but by the rectum the prostate, though still enlarged, is only about half the size it was before and feels flaccid.

Both Dr. Gerster and Dr. Fluhrer have seen Mr. M——since his recovery, and express themselves as thoroughly convinced of the efficacy of the operation in this case.

A few days ago the patient returned to his home. Before leaving he again came to thank me and to say that catheterization was no longer necessary, the amount of residual urine being so small. I still advised the use of the instrument, however, once in two days, until there should be no residual urine.

Howard Lilienthal, M.D.

33 East Thirty-first Street, April 7, 1895.

A MEDICAL FRAUD.

To the Editor of the Medical Record.

Sir: I wish to call attention to a clever scoundrel who is collecting subscriptions for himself and family on the supposed recommendation of Dr. Howard A. Kelly, of Baltimore. The letter which he presents is a forgery, as Dr. Kelly informs me by telegraph. Appended to the letter are several subscriptions from prominent members of our profession in this city. His story is that he left Birmingham, England, three years ago, and settled in Baltimore, to practise abdominal surgery there. He claims to be an intimate friend of Lawson Tait, with whom he says he is in frequent correspondence; in fact had a letter from him only a few days ago, in which Tait advises him to return to England, and promises him work again in Birmingham. He had failed to obtain the success in Baltimore that he had good reason to expect, and now asks for a little help to enable him to return

to England. Dr. Kelly's forged letter recommends him warmly as worthy of assistance. When I asked him if it had not occurred to him that coming from England to practise abdominal surgery in this country was very much like carrying coals to Newcastle, he modestly replied that I was quite right; he had made a mistake, and has been misled by American medical tourists, who had given him glowing accounts of the success of abdominal surgery in this country. The man was shabbily dressed, redolent of whiskey and tobacco, and was evidently a medical tramp on a rapid descent to Avernus. If any one of your readers to whom he presents his forged letter will retain possession of it, send for a policeman at once, and then notify me, Dr. Kelly and I will see that he gets his punishment.

A. BRAYTON BALL, M.D.
42 WEST THIRTY-SIXTH STREET.

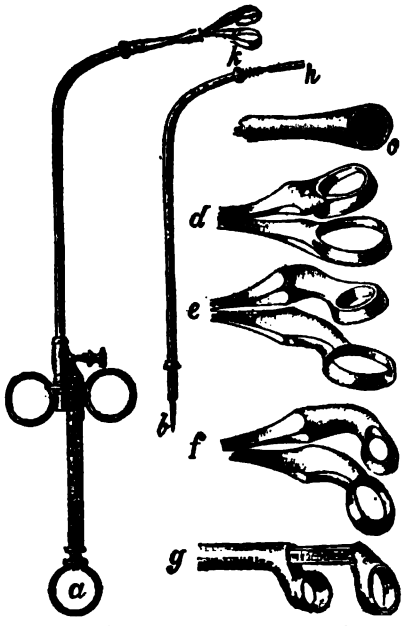
New Instruments.

SURGICAL TREATMENT OF TUBERCULAR LARYNGITIS.[1]

BY C. P. AMBLER, M.D.,
CANTON, OHIO.
FORMERLY LARYNGOLOGIST AND RHINOLOGIST TO WINGATE SANITARIUM, ASHEVILLE, N. C.

THE removal of a circumscribed tubercular deposit from any part of the body by surgical means has for years been recognized as a rational procedure. The frequency with which the deposit involves organs beyond the domain of surgery as we practise it to-day has alone restricted our operative measures.

Following the discovery of the laryngoscope, it remained for Heryng and Krause to construct and perfect an instrument which opened up a new field in the treatment of tubercular laryngitis.



Double Rotary Curette of Heryng; *a*, instrument complete ready for use; *b*, cannulated shaft; *k*, thumb screw; *c*, rectangular socket; *d*, *e*, *f*, double curettes to fit in rectangular socket *c*. The rectangular socket prevents the knives *d*, *e*, *f*, from twisting when in use, and by rotating *c* on the cannula the knife can be set at any desired angle; *g*, punch for ventricular band.

They were among the first to employ the sharp curette proper in the larynx; succeeding with this, they realized that a cutting instrument, with broader scope, more powerful, and retaining the safety features of the first curette, would be of immense value. In their double cutting instrument they have the adaptability, and the power is applied in so ingenious a method that the danger from using a cutting instrument in the larynx is reduced to the minimum, while the compact arrangement of the tool admits of its delicate application and manipulation without materially interfering with vision.

Upon publishing their report the method was received with doubt by the profession generally; many criticisms were made, and while time has changed all this in Europe, where the most brilliant results are being accomplished, here in America but very little has been attempted in this direction.

On October 25, 1894, Dr. J. W. Gleitsman, of New York, who has probably had more experience with these instruments than any other surgeon in America, read a paper upon this subject before the New York Academy of Medicine (Laryngological Section), and even here the members were almost unable to discuss his paper except from a theoretical standpoint. "The chairman, Dr. Delavan, expressed the opinion that this subject of the surgical treatment of laryngeal tuberculosis ought to be better understood in this country. He also stated that the work done in Berlin was far in advance of anything we have any idea of here."

When the methods of Heryng and Krause were first made public the arguments used against such means were:

1. That the wound left after the removal of such tissue as could be reached, would in itself become a tubercular ulcer with no tendency to heal.

2. That the open wound would be a new source for infection, increasing the danger of auto-infection.

3. That the instruments were not practicable in application on account of the inability of the patient to control the throat.

4. That the wound would increase cough and secretion.

5. That the hemorrhage would be severe and beyond control.

6. That it was a question if such instruments could be applied to the intra- or sublaryngeal cavity with precision.

The first objection seems plausible, but facts contradict it. The wound heals more readily than would be expected, and in fact the double-cutting as well as the single curette is applied to open ulcers, the wound healing, where no drug application would stimulate the process of repair.

2. To the second objection we can only say that it is exceedingly rare that the laryngeal deposit is primary, pulmonary involvement generally preceding it and the small wound would be trivial in comparison to other open surfaces.

3. With cocaine, patience on the part of the operator, frequent and systematic manipulation carried out for weeks if necessary, the throat can invariably be brought to toleration.

4. The wound does increase both secretion and cough primarily, but the ultimate result is a marked decrease.

5. Remembering the anatomy, the danger from hæmorrhage is slight. Following each curettement a sixty per cent. solution of conlactic acid is rubbed into the wound. If one application of this does not control the bleeding the parts are similarly treated with a mixture of equal parts liquor ferri and eighty per cent. lactic acid.

6. The last objection requires no answer. The work that has been accomplished speaks for itself.

As laryngologist to Wingate Sanitarium, Asheville, N. C., I had the pleasure to report one of the first successful operations of this kind made in this country. A report of this case was made in the *Therapeutic Gazette*, May 15, 1891. In this case the larynx was almost entirely closed with the tubercular deposit and its concomitant conditions, both arytenoids and false bands were especially enlarged, the vocal cords could not be seen. When admitted she was wearing a trache-

[1] Read before the Stark County Academy of Medicine March 5, 1895.

otomy tube, the same having been put in by Dr. Gerster, in New York City.

While the tube was in position the double-cutting curette was applied, in all at nine different sittings at intervals of a few days, and later a week apart. The result was so successful that she not only became able to breathe and cough naturally, but also regained the use of her voice, having been aphonic for eighteen months. The tracheotomy tube was dispensed with, and while she died a year and a half later from pulmonary trouble, she could never find words to express her gratitude for the relief and comfort the operation gave her.

Following this case the curettes, especially the double-cutting punches were applied in many cases and never with any untoward effect. The instruments used then were the old pattern, and were lost in a fire which occurred in August, 1892. Having since imported a set from Berlin through Meyrowitz, of New York, I present them to you to-day.

These are Krause's latest instruments and consist, as you see, of two forceps for removal of foreign bodies from the larynx, of the double antero-posterior and lateral punch, of two smaller straight double punches, a Sajous's snare for either larynx or nose, and the double rotary curette of Heryng. The chief advantage of the last instrument is that while attached to a common stem, it can be turned in different directions.

A glance at the instrument plainly shows the vast improvement that has been made in recent years in the manufacture of instruments for intra-laryngeal operations. The double-cutting instrument is spoken of as a curette, it simply being a modification of the sharp curette first used; this, however, is a misleading name, it should be called a punch, to distinguish it from the former, which requires a scraping movement in its application. If one is thoroughly accustomed to the use of the laryngoscope, there is no especial difficulty in the application of such instruments. The power to unconsciously transpose the laryngeal image, to reverse the image as it were, to keep the image in perfect view, together with the skill to control your instrument under the mirror, constitute the main difficulties. This, of course, can only be acquired by long and continued practice, and holds true for all laryngeal work, even the most simple applications.

It is to be hoped that the toxin method of treating germ diseases will enable us before long to combat tuberculosis more successfully, but should our greatest expectations be realized, there will be conditions met with requiring operative interference on account of threatened stenosis, and in this class of cases the laryngeal punch will be used more than ever.

Whether with or without antiphthisine treatment the laryngeal punch will still be an aid in giving relief, at least. It is a valuable addition to our armamentarium in treating this to-day practicably incurable disease and deserves to be better known and more extensively used.

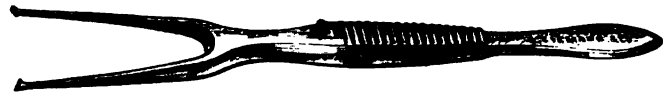
11 N. Cleveland Avenue

NEW EYE FIXATION FORCEPS.

By H. E. HOLMES, M.D.,

Minneapolis, Minn.

Any one who has ever made a corneal section with the ordinary single fixation forceps, must have been, at times, annoyed by the rotary movements of the globe around the fixed point as a centre, making it almost impossible to obtain a clean-cut wound, and at the same time allowing the cornea to assume an elliptical shape as the aqueous escapes, and increasing the danger of the iris falling before the knife. To obviate this, and to insure a perfect fixation of the eyeball at two points exactly opposite the cutting portions of the knife, I have had made by Messrs. George Tiemann & Co., a pair of double forceps which are represented in the accompanying cut. The extremities of the blades are placed at an angle so as to form a tangent with the average globe, and the distance between them is that of the width of the average cornea, or a little less—about eleven milli-



meters. In ordinary cataract operations they should be fixed parallel with the horizontal diameter of the cornea and a few millimeters below; the eyeball is then firmly fixed without pressure or traction, and can be instantly released if necessary.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 13, 1895.

	Cases.	Deaths.
Typhoid fever	6	3
Scarlet fever	105	11
Cerebro-spinal meningitis	1	7
Measles	202	11
Diphtheria	228	34
Small-pox	4	0

Child Mortality in England.—From a recent editorial in the *Lancet* we learn that the Registrar-General's death-rates show that the annual death-rate among children aged under five years in England and Wales, which was 68.6 per 1,000 in 1861–70, declined successively to 63.5 and 56.8 in 1871–80 and 1881–90. From these figures it is evident, as we recently pointed out, that in 1871–80 the mean rate of child mortality was 7.4 per cent. lower than it had been in 1861–70, while in the decade 1881–90 a further decline of 10.6 per cent. took place. Thus it is conclusively proved that the true incidence of mortality at the age-group 0 to 5 declined during the thirty years 1861–90 at an increasing rate of decrease. So much for the facts. How, then, does Mr. Biddle arrive at his "coefficients," which show increased incidence of child mortality? It must be freely admitted that the rate of decrease of child mortality during this period of thirty years has not been equal to the rate of decrease of mortality at the later age-periods. It follows, therefore, that child mortality, compared with adult mortality, is relatively higher, although actually lower, now, than it was before the marked decline in our national death-rate set in. Mr. Biddle, therefore, divides the annual death-rate of children under five years of age by the annual death-rate at all ages, and calls the result or quotient the "coefficient of incidence." We have objected to this term because it conveys no definite idea of its construction or meaning; and still more because the method of its production necessarily destroys, as we shall see, its value as a test of the real incidence of mortality. Mr. Biddle's "coefficients" really only represent the relative proportion that the rate of mortality at any given age-group bears to the rate of mortality at all ages. Therefore, as we know from the Registrar-General's death-rates that adult mortality has in recent years declined far more than child mortality, the so-called "coefficient" of child mortality has necessarily increased, notwithstanding the actual decline in the true rate of mortality. In order to prove the fallacy involved in the attempt to use the "coefficient" as a test of the incidence of mortality, we need only note Mr. Biddle's admission that his "coefficient" of child mortality has shown a tendency to steadily increase un-

less "an exceptional visitation, such as influenza, affects the other groups." Thus, the "coefficient" method involves the absurdity that an increased mortality from influenza, or any adult disease, invites the assumption of an increased "power of resistance to disease and death" among children; whereas, the beneficent discovery of a prophylactic for phthisis or cancer would, on the other hand, apparently justify his most gloomy conclusions as to the supposed decrease of the "power of resistance" in the age-group 0 to 5. Mr. Biddle, we feel sure, would admit that there would be nothing "hideously wrong" in an increase of his "coefficient of incidence" of child mortality due to the extinction of phthisis or cancer. It may, moreover, be interesting to him to know that, if the present excessive rate of mortality among children under the age of five years could be reduced to a third of its present figure, the "coefficient" for this age-period would scarcely indicate this startling decrease of child mortality, as he suggests, because the death-rate at all ages would thereby be necessarily reduced to a marked extent. It is needless, as it is impossible, here to discuss what the death-rate of childhood ought to be, certainly much lower than it is; but it would be sheer optimism to expect that it should not exceed the mean rate of all ages. Neither need we feel either surprise or despair that sanitary effort has influenced it less than the death-rate at later age-groups. It is well to bear in mind, however, that while, according to the latest published English Life Table for England and Wales (1876–80), the mean rate of mortality under five years was 61.0 per 1,000, the rate according to Dr. Farr's Healthy District Life Table was only 39.4, and according to Ansell's Table, based upon upper-class experience, did not exceed 28.2. Child mortality in England and Wales, judged by the Registrar-General's statistics for a long series of years, is decidedly decreasing, but we do not hesitate to agree with Mr. Biddle that there is "something hideously wrong" in the still terribly excessive waste of child life in this country.

Titles of Some Old French Theses.—The following are a few theses, authentically titled, that will serve to give some idea of the curious thoughts of former Parisian medical students:

"Does the fœtus resemble the father more than the mother?" (1376.)

"Is water more healthy than wine?" (1622.)

"Does the worship of Venus drive away disease?" (Affirmative.)

François Le Sage: "An mulieri preferatæ vir succulentus?" (1612.)

Dennis Joucquet: "An aurora veneris amica?" (1637.)

Robert Debonnaire: "Are infants born with a caul the happier?" (1637.)

Andre Guget: "Are heroes not born at the tenth month?" (1643.)

Hippolite Duval: "A nex salacitate calvities?" (1662.)

"Is music efficacious in disease?" (1624.)

"Should a young girl in love be bled?" (1639.)

"Is getting drunk once a month healthful?" (1643.)

"Is woman an imperfect work of nature?" (1646.)

"Does libertinage induce baldness?" (1662.)

"Should literary men marry?" (1745.)

—*Cincinnati Lancet-Clinic.*

The Boiling-point of Milk.—Dr. Edmunds, writing in the *British Medical Journal*, makes the following observations on this subject: Referring to the temperature at which typhoid bacilli are killed, a correspondent assumes that milk boils at 180° to 190° F. This is a mistake which needs correction. Milk boils at a temperature higher than that of water, and it is well known that boiling milk inflicts a much more serious scald than boiling water. The point at which milk boils will vary half a degree or more, according to the amount of its saline and other non-aqueous constituents, but I find that a fair sample of milk, taken from my own kitchen, boils at 213.5° F. when tested with a standard chemical thermometer. I have always advised that milk boiled for one minute is made safe by the killing of any infective germs which it might have contained. The butter contained in the milk does not seem to raise its boiling-point, but it is well known that butter and other fats and fixed oils boil at a very much higher temperature, and that boiling fixed oils destroy the skin as effectually as melted lead. In the manufacture of tin plate—that is, sheet iron plated with tin—the tin is kept melted under melted tallow, and the clean sheet iron is tinned by being passed through this bath of molten tin. Fixed oils may be heated to about 500° F. without undergoing material change, but at about 600° F. they begin to boil, owing to the evolution of gases, which are set free as a process of destructive distillation. It is generally held that the typhoid infection of milk is due to contaminated water used for washing the milk vessels or for augmenting the bulk of the milk by fraudulent additions. My own opinion is that an escape of fecal matter from the cow while being milked often falls into the milk-pail, and that this is generally the real cause of typhoid infection in milk. I have actually seen this to occur when inspecting dairies and examining suspected cows, and I am perfectly sure that it often takes place. The polluted-water theory seems to me to be far-fetched and inadequate.

A Pocket Explosion.—On the morning of Saturday, January 19th, Dr. Davidson was called to see a patient and found him suffering from an extensive burn of the inner surface of the left thigh, with another burn of smaller extent, but more severe, extending over the thenar half of the left palm. The history of the injury elicited was that the patient had been suffering from sore throat and had purchased some chlorate of potash lozenges. These he was carrying in his trousers pocket rolled up in a piece of paper. One of the lozenges was loose in the pocket, which also contained a box of safety matches. While moving about he suddenly heard a noise like the hissing of a squib before the detonation, and saw smoke issuing from his pocket, which he grasped from the outside thinking to smother the fire. An explosion followed which blew out the whole of the front of the trousers leg. There was no loud noise, only an exaggeration of the hissing noise heard at first, but there was a considerable volume of flame. What had evidently happened was that the loose lozenge, by rubbing on the composition on the outside of the box of safety matches, had become ignited, and that the rest of the lozenges had been exploded by it, causing the chief explosion. On the room being searched the remains of several of the lozenges were found. They had been reduced to about a third of their normal size and the outside of them appeared scorched. The patient had fully one ounce of the lozenges in his pocket at the time of the occurrence. On January 25th the wounds were healing rapidly and were almost entirely covered with new epidermis.—*The Lancet*, February 16, 1895.

The Influence of Climate on Health and Disease.—Mr. Harrington, chief of the Weather Bureau of the United States Department of Agriculture, has issued the following circular: "The interest manifested by every class of people in the subject of climate and its influence on health and disease, has determined the Honorable the Secretary of Agriculture, through the medium of the Weather Bureau, to undertake the systematic investigation of the subject. It is hoped to make the proposed investigation of interest and value to all, but especially to the medical and sanitary professions, and to the large number of persons who seek, by visitation of health-resorts and change of climate, either to restore health or prolong lives incurably af-

fected or to ward off threatened disease. The study of the climate of the country in connection with the indigenous diseases should be of material service to every community, in showing to what degree local climatic peculiarities may favor or combat the development of the different diseases, and by suggesting, in many instances, supplementary sanitary precautions; also by indicating to what parts of the country invalids and health seekers may be sent to find climatic surroundings best adapted to the alleviation or cure of their particular cases. The hearty co-operation of the various boards of health, public sanitary authorities, sanitary associations and societies, and of physicians who may feel an interest in the work, is asked to achieve and perfect the aims of this investigation. No compensation can be offered for this co-operation other than to send, free of cost, the publications of the Bureau bearing upon climatology and its relation to health and disease to all those who assist in the work. Co-operation will consist in sending to this office reports of vital statistics from the various localities. That these reports may be of value, it is evident to all that they should be accurate and complete, and be rendered promptly and regularly. Blank forms of reports have been prepared so as to occasion as little trouble and labor as possible on the part of the reporter, and will be furnished by the Bureau on application. At the very beginning of the investigation it is not possible to outline precisely the channels through which the results obtained will be made public, but it is hoped to publish soon a periodical devoted to climatology and its relations to health and disease. The publication will probably resemble in size and general appearance the present *Monthly Weather Review*, the subject matter being, of course, different. More detailed information will be furnished on application."

An Unusual Obstetric Experience.—Dr. E. G. Roberts, of Fair Haven, Vt., writes: "From a Welsh newspaper of recent date I translate the following account of an unusual occurrence, which took place during the late severe weather near Rhosmarket, Pembrokeshire, Wales. A young married woman left her home in the parish of Burton with the intention of walking to her mother's house in Rhosmarket—a distance of about four miles—where she intended to stay until a certain expected event should take place. Her mother walked halfway to meet her, and was thunderstruck to see her carrying a newly born babe in her arms. The mother and child were taken to the nearest house as quickly as possible, where another child was born shortly after. This happened in the severest weather with deep snow covering the ground. The paper does not state whether the mother or children suffered from their hard experience, but from its silence it may be inferred that the case did well."

The Lady and the Dog.—We recently published the letter of a female anti-vivisector who refused the use of a dog (from the Philadelphia pound) in carrying out a surgical procedure proposed by Dr. W. W. Keen. The answer of Dr. Keen to the lady much deserves publication also. He says: "Aside from myself there are three parties who are to be considered in this matter. First, the dog; second, the man, and third, mankind. First, the dog; I stated to you that the dog would not suffer; that he would be treated with the same care as the man, and that after the operation I should continue the anæsthetic until the dog was dead. Yet you refuse me the dog because, forsooth, somebody else may be cruel to some other dog. Secondly, the man. This man knows what I am going to do, and is anxious to have it done. His leg is paralyzed. If by an ordinary surgical procedure I can re-establish the continuity of the nerve, I may be able to cure his paralysis. In that case I should not have recourse to the dog. If, on the contrary, the gap between the two ends of the nerve is so great that I cannot bring them together, either the man must be condemned to paralysis for life or some other means must be tried to re-establish the nerve and so restore to him a useful leg. This might be done by the process of nerve-grafting. Yet you refuse me a dog on the ground that it is an 'experiment.' Granting that it is, it is at the most a perfectly harmless experiment, for it would not be more painful than any ordinary operation; and even if it absolutely fails, it leaves the patient not a whit the worse off. If it succeeds, it will be the greatest possible service to him. Thirdly, mankind. The only way in which surgery can make any progress is by testing new methods of treatment which have at least a reasonable possibility of success. Just such persistence and continued trials have encircled the globe with ocean cables. But you assume the *rôle* of a judge, who decides that such a new method of treatment shall not be tested. You, who I presume would admit that you know nothing of surgery, put your judgment against that of one who has spent thirty-five years in the earnest study, active practice, and continuous teaching of surgery. You will excuse me if I think you are not a competent judge. If you had your way there would be no Pasteur Institutes in any part of the world to save so many lives from hydrophobia; there would be no antitoxin treatment of diphtheria, which already has borne such wonderful results; there would be no inoculation against cholera, which in the hands of Haffkine bids fair to rescue thousands of lives; there would be no cerebral surgery, since you would not allow us to investigate the functions of the brain; there would be little or no antiseptic surgery, the greatest stride forward of this century. In your misguided zeal for dogs you are guilty, in my opinion, of cruelty to this man, and cruelty to all mankind, because you thwart scientific progress under the guise of love for animals. You would condemn to the torture and disabilities of accident and disease, people who have happily been rescued by the more humane scientists in my profession. You will pardon me if I write earnestly. It is because I feel deeply the injury you are trying to inflict upon the human race. Happily, the common sense of the community does not allow you to have your way, as they prefer the devotion of my own profession to the welfare of mankind, to your devotion to dogs in preference to men."

BOOKS RECEIVED.

THE YEAR-BOOK OF TREATMENT FOR 1895. A Critical Review for Practitioners of Medicine and Surgery. By numerous contributors. 8vo, 490 pages. Published by Lea Brothers & Co., Philadelphia, Pa.

THE TREATMENT OF WOUNDS, ULCERS, AND ABSCESSES. By W. Watson Cheyne. 8vo, 197 pages. Published by Lea Brothers & Co., Philadelphia, Pa.

A MANUAL OF THE MODERN THEORY AND TECHNIQUE OF SURGICAL ASEPSIS. By Dr. Carl Beck. 8vo, 306 pages. Illustrated. Published by W. B. Saunders, Philadelphia, Pa. Price, $1.25.

A BOOK OF DETACHABLE DIET LISTS, FOR ALBUMINURIA, ANÆMIA AND DEBILITY, CONSTIPATION, DIABETES, DIARRHŒA, DYSPEPSIA, FEVERS, GOUT, OR URIC-ACID DIATHESIS, OBESITY, TUBERCULOSIS, AND A SICK-ROOM DIETARY. Compiled by Dr. Jerome B. Thomas. 8vo. Published by W. B. Saunders, Philadelphia, Pa. Price, $1.50.

TRANSACTIONS OF THE SIXTEENTH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION. Held in the City of Washington, D.C., May 30th, 31st, and June 1, 1894. 8vo, 181 pages. Illustrated. Published by D. Appleton & Co., New York City.

GENERAL MEDICINAL TECHNOLOGY. By Dr. Edward Curtis. Pocket Manual. 235 pages. Third Edition. Published by William Wood & Co., New York City.

THE PATHOLOGY OF MIND. A Study of its Distempers, Deformities, and Disorders. By Dr. Henry Maudsley. 8vo, 571 pages. Macmillan & Co., New York City. Price, $5.00.

Medical Record

A Weekly Journal of Medicine and Surgery

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Original Articles.

ILLUSTRATIVE CASES OF CALCULOUS DISEASE.[1]

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ALTHOUGH I have nothing very new to present to you, some interesting deductions may be made, and perhaps some clinical advantages derived, from a brief study of the following cases:

The first case to be narrated shows that a stone of medium size may remain in the bladder for an indefinite time, without giving rise to serious symptoms, providing proper care be taken of the individual. The patient was a man who died about seven years ago at the age of seventy-four. He had been under my care more or less constantly for the previous eight years. He was a gentleman of means, who had never been robust, who had many ideas in regard to his health, and had passed through the various stages of vegetarianism, clairvoyance, and homœopathy, and had finally become a valetudinarian, but tolerably docile under my directions. During the whole time that he was under my care he had the usual symptoms, subjective and objective, of prostatic hypertrophy, with a very mild grade of vesical catarrh, and had been unable to pass a drop of urine spontaneously. At times he had symptoms which were suggestive to me of stone; but I was able to make him so comfortable by frequent ablution of the bladder and quiet in bed that he always positively refused any instrumentation, even so simple as exploration of the bladder. He had a body-servant, had extra springs put on his carriage, never walked, excepting about his rooms, and his exercise in the open air consisted of a daily prolonged drive. This went on year after year, with occasional intercurrent attacks of nephritis, until his final sickness, which was also an attack of acute nephritis terminating in uræmic coma and death. He had two great fears: one was pain, and the other lest he should be buried alive. For several years on returning to my care in each autumn, he made me promise, firstly, that I would see to it that he should have no pain; and secondly, that after his final sickness I would make certain that he was dead. Accordingly, after his death, I informed the relatives that my part of the agreement was to be carried out; and that one of the most certain ways of determining positive death was to make an incision into him. This I did by opening the bladder, and found, as I had anticipated, this stone which I now show you, which weighs 123 grains and measures $1 \times \frac{7}{8} \times \frac{5}{8}$ inch. I have no doubt that he had stone in his bladder for at least three years prior to his death, but he was so content with his condition, and was so delicate, together with the chronically advancing condition of his kidneys that I also was content to let well enough alone.

In this case the symptom which was suggestive of stone was pain, induced or aggravated by jolting and sudden stoppage of the stream of urine as it flowed from the catheter. Ordinarily, in the subacute or chronic condition of prostatics, especially after the establishment of catheter life, pain is not experienced unless an acute inflammatory attack supervenes. But if pain be persistent, and aggravated at the end of the act of urination, or by motion, and associated with sharp spasms, stone may be suspected. If there also be frequency of urination, other than the habit of the individual, together with sudden stoppage of urine in full stream (even when the catheter is used), and the appearance of blood in the urine, stone should be searched for. Priapism and reflex pains are also suggestive.

A few years ago I was summoned to see a man, over sixty years of age, who had been in fairly good health, but for several years had suffered from some indefinite bladder trouble, which a few weeks prior to my visit had become positive and severe in character. He was under medical care, but his symptoms becoming serious I was summoned. He was then in very poor condition, with a weak and rapid pulse. He was urinating every few minutes, with violent tenesmus, and it seemed to me that his condition was extremely critical. Searching of the bladder immediately revealed a large calculus, and I proposed that an operation for its removal should be done on the following day; in the meantime, bracing him up with tonics and stimulants, with frequent ablution of the bladder. On the following morning, to my great astonishment, I received word that because it was Friday he positively refused to be operated on. My surprise was increased by the fact that the man was an Israelite, for I did not know that that race had any particular superstition about Friday. On the following day (Saturday) word was sent me that his condition having become desperate, he had been hurried out to a hospital, where he immediately died. Through the courtesy of the house staff of the hospital I am able to present to you a cast of the stone, which was removed from his bladder post mortem. It measures $2\frac{3}{8} \times 1\frac{7}{8} \times 1\frac{1}{2}$ inches (circumferences = $6\frac{1}{8}$ and $5\frac{3}{8}$ inches).

Unfortunately, this man's history, as regards the commencement of calculous symptoms, is very indefinite, but it is certain he had bladder symptoms extending over several years, during which a stone may have formed insidiously, and then increased very rapidly in size during the latter part of his life. A stone may form in the bladder, primarily, very slowly; or, a gravel which has descended from the kidney may lie dormant for an indefinite period, and suddenly, because of some change in the condition of the bladder or in the constituents of the urine, have a very rapid accession to its size.

Stone may be present without giving rise to any symptoms calling attention to the bladder or the genito-urinary organs. For example, a gentleman, aged fifty, of a rheumatic or lithæmic tendency, but who had always been well with the exception of occasional attacks of migraine and muscular pains, was subjected to a prolonged business strain by which he was extremely prostrated and finally confined to his bed for a week with no other symptoms than those of neurasthenia. He had no symptom whatever pointing to the bladder—no pain, no frequency of urination. On the fifth day of his confinement to bed he got up to urinate and passed, with slight scalding, a calculus, irregularly oblong in shape, which he brought to me. It

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weighed less than one-quarter of a grain (.215) and was composed chiefly of oxalate of lime, with smaller proportions of phosphate of calcium, of ammonium and magnesium and fibrin, and a small amount of that rare substance, xanthine. The passage of the stone was a great surprise to him, and he could scarcely believe that he had emitted it. Since then he has been perfectly well, with the exception that occasionally he rises to urinate once at night and at times (rarely), has urine of high specific gravity, which scalds him slightly as it is passed. How long was this little calculus in forming and where did it originate? in the bladder or a kidney?

In the spring of 1892 a young man, aged thirty-three, was sent to me from the interior of the State. He was suffering constantly and so weak that he could hardly walk. The following is a brief synopsis of his history: He had passed gravel from his urethra since he was seven years of age and had never been robust, although able to work. Seven years before I saw him he had married, and his wife had borne him children, the youngest being eight months old. He had had occasional attacks of what were called "kidney and bladder disease," which he said consisted of pain in the groin and over the pubes, with frequent and painful urination. About a year after his marriage, that is to say, six years before he came to see me, he was said to have "inflammation of the bladder," and a physician introduced into his urethra a sound with such violence as to cause intense pain, and the same night the patient passed a "chamberful" of clotted blood. Since then he has had to urinate every hour on the average, and sometimes as often as five times in one hour. Pain was always present at the end of the act of urination, the latter being accompanied by violent straining. He was obliged to sit down in order to urinate voluntarily, and for the past two weeks he has been compelled to empty the bladder with a catheter. At the time of my examination he passed about half an ounce of thick, bloody, foul urine, which was declared to be the usual quantity passed at each act. He groaned with pain immediately after its expulsion. Pressure upon the base of the bladder and prostate forced out a gush of thick, grumous, foul-smelling pus from the urethra. The searcher revealed a calculus, but its size and character could not be made out because of the extreme sensitiveness of the bladder. He was put to bed and his bladder was frequently irrigated for one week. He was then etherized and a careful attempt made to seize and crush the stone, but this was found to be impossible. The bladder would hold but little fluid. The lithotrite seemed to ride over a large mass of stone, and its beak could not be turned down toward the calculus. I accordingly desisted; introduced a sound, which was turned up behind the pubes, and upon the point of this as a guide did a suprapubic cystotomy. Through the incisions the exploring finger very readily made out a large calculus, which was immovable in the bladder. It projected upward and backward into the cavity of the bladder, and further exploration showed that a large part of its longest diameter was embedded in the base of the bladder, which surrounded and adhered to it. Before it could be removed I had to enucleate it by putting two fingers of the other hand into the rectum, thus making counter-pressure, and with two fingers of the hand in the suprapubic opening I pushed away the tissues which surrounded it. I now show you this calculus, which weighs 607 grains. It is shaped somewhat like an egg, and has the general appearance of a phosphatic stone. This man made a rapid and good recovery, and was allowed to go to his country home before the suprapubic sinus was healed, instructions being given to his doctor how to treat the diseased bladder.

In all cases of vesical calculus the bladder requires after-treatment; otherwise there may be relapses of stone formation, and a return to the patient's previous condition. Unfortunately, the relief to these patients is so great that they either do not seek the advice and assistance of their physician, or else the latter, knowing that the stone has been removed, does not feel the necessity for further treatment of the patient. This case is a good illustration of these points. The patient returned to his home in June; the following November he came to me again, urinating every few minutes, with the suprapubic sinus still open, and although he declared that he had washed his bladder every day, he was still passing stinking, ammoniacal urine. He was washed out thoroughly and the sinus rendered aseptic. Then the bladder and sinus were washed with a solution of silver nitrate, and he was instructed how to wash his bladder with boiled water containing boracic acid, and told to go to work, which he stated he had been afraid to do, lest he "should break open." The sinus healed in four days, and six months later he wrote to me stating that he was entirely well. I present this case to you in order to show how this individual had been neglected or imperfectly treated from his childhood up, and how violent instrumentation had aggravated his condition.

In May, 1894, Dr. Chismore, of San Francisco, reported to the American Association of Genito-Urinary Surgeons fifty-two cases of prostatics upon whom he had operated for stone with his evacuating lithotrite. Among this number he had had no deaths; he had used no anæsthetic but cocaine, from which no ill effects were noted in any instance. In age his patients ranged from fifty-one to seventy-four years, and the average weight of the stones removed was 149 grains. In some of his cases the operation was completed at one sitting, in others it was continued as long as in each case seemed justifiable; that is to say, until pain was complained of, or until in his judgment there was some evidence of bladder irritability or constitutional disturbance on the part of the patient; any fragments remaining were purposely left in the bladder, to be removed at a subsequent operation.

The use of cocaine for such a purpose was not new; and the leaving in of fragments with repeated sittings seemed like a retrograde step in the history of litholapaxy, but the results reported were so good that I selected three bad cases upon whom to test the method. One of these was a gentleman, aged sixty-four, who has a very difficult bladder and an exceedingly sensitive prostatic urethra. He is a professional man, working with great intensity, and easily gets alkaline fermentation in the bladder and phosphatic urine. He has been a patient of mine for several years, and in my first operation on him by suprapubic cystotomy I removed a stone which weighed 300 grains. Two years later I removed 700 grains by perineal lithotrity; a year after that I performed litholapaxy, under ether, having failed to crush the stone with laughing-gas as the anæsthetic; and again, in January, 1894, litholapaxy, under chloroform. He develops stone very rapidly; I have searched him, pumped him out with the washing-bottle and failed to get any sign of stone, and two weeks later, with the same apparatus, have found a small stone which had evidently formed in the interval. Since hearing Dr. Chismore's experience I have operated on this patient five times; for example, I have operated on him for twenty minutes without entirely removing the stone, and four days later have completed the operation. This year his longest interval of freedom from stone has been from November, 1894, to January, 1895. Immediately after the removal of stone, his intervals of urination lengthen from one hour to six hours. The least change in his health, catching cold, or an excess of intellectual labor seems to produce a condition of urine which causes a very rapid precipitation of phosphates upon the globules of gelatinized pus. In the first operation with cocaine I employed a four per cent. solution, using only one ounce; a few minutes later he became very talkative

and buoyant, and declared that he had never felt better in his life. He went away from my office, and in less than half an hour had an attack of syncope, during which his face was blanched, his extremities cold, and the heart rapid and intermittent. He was restored by the use of whiskey, digitalis, and nitro-glycerine. The operation was performed in my office at one o'clock, and I learned that he had had no food since seven o'clock that morning. Since then I have used two ounces of a two per cent. solution and have had no untoward symptoms.

The second case is that of a man, aged fifty-nine. Upon him also had been performed suprapubic cystotomy, and three years later—that is to say, in June, 1893—perineal lithotrity. I have operated upon him four times, and in his case there have been no unpleasant effects from the cocaine. He has never had any reaction after any of the operations, although I have performed them in my office and have left in fragments of varying size. He also makes calculi very rapidly. These patients live out of town, and their visits are more or less interrupted and infrequent, making it very difficult to keep them in good local condition.

The third case is that of a gentleman, aged sixty-eight, who has intermittent saccharine diabetes, chronic interstitial nephritis, and a difficult bladder to enter, urination being effected by the aid of a silver catheter. He has had two litholapaxies done at intervals of a year by a competent New York surgeon. His symptoms, following the last of these operations, not having been relieved, he came under my care for treatment of his bladder. I found no stone nor fragment, and after some weeks of treatment, his urinary intervals lengthening and the blood disappearing from his urine, he returned to the care of his family doctor, comparatively well. I did not see him again until two and one-half years later, when he sent for me, complaining of pain in his bladder and of frequency of urination, with paroxysms of straining. Searching did not at first determine a calculus in the bladder, but the latter was so sensitive and irritable that I was obliged to put him to bed and have him carefully and gently irrigated. After some weeks of treatment his symptoms were relieved, and searching revealed the suspected stone. Since then I have operated on him five times in the same way as described in the first case. He has had no reaction from the cocaine. On one occasion he had some swelling of the prostatic urethra, causing difficulty in introducing the catheter. This subsided in three days. Other than that he has had no difficulty whatever. At present his intervals of urination are from four to six hours. He shows no tendency to the re-formation of stone, but he has the moderate amount of vesical catarrh which is common in such cases. To him the dread of operation has been so great that he put off having anything done, and went on suffering when he might have had speedy relief. He now knows that there is a comparatively rapid and comfortable manner of removing his stone, should any form, but appreciating his liability to alkaline fermentation and stone, he now comes regularly for treatment.

Of course there is no novelty in cocaine anæsthesia, and I doubt its applicability in cases of large or hard stones in young individuals, where it would be unwise to leave fragments behind to torment an angry bladder. The bladder of prostatics is very tolerant and does not seem to resent the leaving in of fragments, but in my opinion great care should be exercised in treating the bladder, both before and after the operation. This operation does not require the presence of much fluid in the bladder, but it does require considerable dexterity and celerity of movement on the part of the operator in order to avoid prolonged manipulation, with subsequent shock, or risk of damaging the wall of the bladder.

This small stone which I now show you represents an entirely different class of cases from those to which I have thus far called your attention. It was removed from the urethra of a child, four and a half years of age. The only novel thing about the history of the case is, that during one of the child's efforts at straining the stone was forced from the bladder through the prostatic and membranous urethra into the bulbous portion. Here it was retained, not absolutely obstructing the escape of urine, but acting in a measure like a ball valve. The child suffered comparatively little after its escape into the penile urethra, but the urinary symptoms continuing, he was brought under my care. The stone weighs 11 grains and measures ½ × ⅜ of an inch. Before operating on the child I endeavored to force the stone out of the urethra by pressure from behind, but it was firmly obstructed at the beginning of the pendulous portion. Accordingly, I pushed it back into the posterior part of the bulbous urethra, and holding it firmly there made an incision through which it was extracted with ease. He made an uneventful recovery, the urine passing through the normal outlet within a few hours after the operation. I have removed calculi of different sizes and constituents from the urethra of the adult, but the passage of a stone (especially of such size), from the bladder of so young a subject into the urethra never having come under my observation before or since, I beg leave to present the case to you, hoping to evoke from you similar experiences.

Another class of cases of exceeding interest, and also within reach of surgical measures, is that of renal calculi. The diagnosis is not always clear, and is usually made by exclusion. In some cases cystoscopy is an aid to it. Pain (renal colic) recurring in one loin or the other, aggravated by jolting or locomotion, associated with kidney elements, and blood in the urine in small quantity, together with an irritation of the testicle of the corresponding side, should lead one to suspect stone and eliminate, if possible, tuberculosis or a neoplasm. At all events, if medication, carried on for a reasonable time, fails to ameliorate the symptoms, the kidney should be explored, lest permanent damage should result to such an important organ. Unless the pain becomes constant, many individuals with suspected renal calculi will refuse operation, preferring to bear their attacks of "kidney colic" rather than to subject themselves to the risks of an operation. From several such cases, five of which were operated on, I have selected three to illustrate clinical features of some interest. One of these is that of a gentleman, aged forty-three, who had suffered from symptoms of renal colic (right kidney) for several years, and finally from hæmaturia and the physical evidences of chronic nephritis. In this case I removed, through a lumbar incision and an incision through the tissues of the kidney, a moderate-sized stone without any particular difficulty. It was irregular in size and friable in character, and during its extraction was broken. The fragments were, as I thought, entirely removed from the pelvis of the kidney with my finger and a small scoop; and the wound through the kidney and its pelvis was thoroughly flushed out with hot boric acid solution. The patient made a very rapid and uneventful recovery. About two weeks after the operation, and two days after he left his bed he had an attack of "colic" in the same kidney on which he had been operated, but which subsided very quickly on lying down. Two weeks later he had another attack of some hours' duration, and passed per urethram a small, flat, irregular, granular body, which I supposed to be one of the fragments of the original stone. After that he remained entirely well for about one year, being absolutely free from pain, when he had a new formation of stone in the same kidney, and after a violent attack of pain, nausea, etc., passed a small, solid gravel by way of the urethra. In my opinion, the attack coming on about a month after the operation is not to be attributed to a re-formation of stone, but to the liberation by locomotion of

a small fragment which in spite of my care had lodged somewhere in the hilum of the kidney.

The second case is that of a lady, of about thirty-five years of age, who had suffered for several years with intermittent attacks of pain in the right lumbar region, with intermittent hæmaturia, and with frequent and painful urination. For nearly a year before I saw her the blood had disappeared, but the pain in the loin had become severe and almost constant, with intense exacerbations, requiring the almost daily use of opiates. When I first saw her she was confined to the house, was greatly emaciated, and her urine, of which she passed from eighty to ninety ounces in twenty-four hours, was of a low specific gravity and contained granular casts. The pain in the right lumbar region radiated downward into the bladder and genitals and was very severe. She suffered extremely, and of course had to be promptly relieved by means of opium. Her condition was such that although an operation seemed hazardous, it demanded some measure of immediate and radical relief; accordingly, I operated upon her by the lumbar incision. When the kidney was reached I felt unwilling to make an incision through an organ already damaged by chronic inflammation, lest its excretory power should be further and dangerously reduced, thus perhaps jeopardizing her life. It seemed to me preferable to let her take the risk of a subsequent urinary fistula. Therefore I fished up the ureter, followed it up to the pelvis of the kidney, turned the latter out into the wound, and opened it wide enough to introduce my finger and search its interior for stone. This was readily found, but its extraction was exceedingly difficult; it would slip away from the finger and hide itself in one of the calices, and it was only after a prolonged effort that I was able to extract it. You see that it is perfectly smooth and hard, slightly flattened on two sides, and that it could very readily escape from an extracting instrument. The opening in the pelvis of the kidney was stitched with catgut, and the wound tamponed with iodoform gauze in such a way as to make gentle compression upon the side of the pelvis in which the incision was made. For five days succeeding the operation the woman was in a very critical condition, suffering from constant nausea and vomiting, with marked vital depression. After that her recovery was uneventful. There was never any leakage of urine, the wound healed by granulation, and from that time to this she has gained steadily in health and weight. From time to time since then she has had attacks of pain in the same kidney, at times quite severe. I have wondered whether another stone was present, or whether another one had formed since the operation; but these attacks having grown less and less frequent, and less and less severe, and her general health having improved in such measure, I have concluded that the pain is due to the efforts of the ureter to expel little masses of pus and epithelium which are still to be found in her urine, the products of the pyelitis, which still persists. Her condition was so critical at the time of the operation that I am satisfied with the course pursued, namely, that it was better to take the risk of a urinary fistula than to damage by surgical traumatism an already diseased kidney.

Another patient under my observation gives a history of renal colic extending over some years, and finally, of pain located in the left side of the abdomen just above the brim of the true pelvis. In this particular locality, along the course of the ureter, can be felt a hard, elongated body, tender upon deep pressure, and which has no relation to any bowel condition. I have advised an exploratory operation with the belief that I shall find an impacted calculus, which I hope to remove by the extra-peritoneal method, and afterward treat the ureter in the same way as I did the pelvis of the kidney in the preceding case. If this should fail and a urinary fistula result, I see no reason why the wound should not be reopened and the edge of the opening in the ureter restitched. Then, to prevent the urine from passing down the ureter, thus interfering with healing, why not open the loin, pass a tube through the tissue of the kidney into its pelvis, and drain away the urine from above? This plan would probably obviate any necessity for a nephrectomy, and leave to the individual sufficient kidney tissue for the requirements of health.

29 East Forty-fourth Street.

ARE THERE SEASONS UNFAVORABLE FOR SURGICAL OPERATIONS?

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The question of this paper, asked equally often of the physician and surgeon by the patient, is worthy of thought. There are many operations, not urgent, which, in the experience of all, have been followed by grave consequences and sometimes death. It may be we have advised them, and they have been done with the utmost care. We are appalled at the result. We ask ourselves, Would it have been wiser to have waited till a better season?

We come to the question of the evening, Is there a good and a bad season for surgical work?

I well remember twenty years since, when on the resident hospital staff, examining a case with Dr. George A. Peters, then visiting surgeon, and being impressed by his advice to the patient not to be in too much hurry to have an operation, but to return at a better season. Now Dr. Peters was always a cautious surgeon. He would usually in a doubtful case "let it simmer," as he was wont to say, and never rushed into uncertain operations. We all know, however, that he was a good observer. A disease would have to declare itself symptom by symptom, spell itself out letter by letter, as it were, before he would pronounce its name. Such was the impression his service left upon the minds of his house staff. Hence, he seemed never to rush into doubtful diagnosis or risky operations. We all know, however, that he was a successful surgeon, and that added to his powers of observation he had a well-balanced mind and worked conscientiously for the welfare of his client. His observations, then, that there were good and bad seasons for surgical work, left an impression that has frequently obtruded itself on my thoughts during twenty years of work.

It is, and should be, one of the many complicated considerations prevailing in the mind of a physician or surgeon in giving advice, which constitute what is technically and popularly recognized as the doctor's judgment—for as one grows in years he finds that not the mere skill of a mechanical surgeon nor the accumulation of scientific facts form the basis of sound judgment. It is to aid us in having a clearer perception of this question that I invite discussion.

Why has the public mind had the idea that there is a difference in relative danger at varying seasons? Probably because we all know the effect of "dog days" on healthy natures; and of extreme heat, when many say, "If this keeps on another day we shall die;" and it is undoubtedly true that prolonged heated days and nights swell the mortality lists, and the weaker ones drop off. We have all been conscious of extended periods of depressing weather, heavy gloomy days when we work with difficulty.

The public knows that at certain hours of night the vital powers are at an ebb; that there are seasons when sudden deaths seem to prevail; that epidemics of grippe, etc., come at times and close our schools—when the general health seems to be below par. Naturally, then, the legitimate inference is that if they are to be operated on, they will choose the best season, if possible, to wait.

In the surgical views of the last generation we will find corroboration of Dr. Peters's remark, which would not prevail to-day.

Addinel Hewson, in an article on the influence of the weather on the results of surgical operations, written thirty years ago, states that all operators on the eye were accustomed to observe many instances of failure in operations on cataract, iridectomy, etc., due to unfavorable changes in the weather, and asserts that he had allowed the atmospheric considerations to influence him in advising operations or postponement, regarding eye-work as typical of all surgical interference. He then takes about three hundred cases of amputations for injuries, during several years in one hospital, laboriously analyzes the weather about the time of each operation, and finds that according to season a much larger proportion of deaths resulted from pyæmia in summer and from shock in winter. We may dismiss pyæmia from our minds, as it has almost been vanished with erysipelas from our wards, and look only on the fact as a curiosity that in pre-Listerian days it was more common in summer owing to bacterial activity and putrescence in hot weather. But what interests us more is the deduction regarding shock, that it is more common in winter than in summer. This does not appeal to reason, and when we see that from his statistics he had no mortality from it in September, August, and January, it is evidently an accident of statistical summary with which winter is thus credited.

Of more interest is a barometric note he makes: Out of 259 amputations 54 were fatal, 11 having been operated on during an ascending barometer, 35 when it was descending, 8 when it was stationary. He asserts that the barometer is a guide for operations when a choice of time is at his disposal.

B. W. Richardson also recognizes the time as favorable for operations when the barometer is rising, or high. Regarding season, he has written from the stand-point of twenty-five years ago, that from a study of one hundred and thirty-nine thousand deaths he finds the prevailing deaths from surgical fever to be in winter, when, he observes, all febrile diseases, scarlet fever, erysipelas, etc., prevail. This he backs up by quoting positive facts of one operator's work and one class of operations, namely ovariotomies, and he finds that, because Spencer Wells during one year had a mortality of about 1 in 5 in the first quarter, 1 in 13 in the second, 1 in 5 in the third, and 1 in 2 in the fourth, he must conclude that spring offers the best, and winter the worst months for success.

From the present stand-point of surgical pathology we see how utterly at fault so keen an observer as Richardson was. I have quoted him only to emphasize the fact that the idea he announces has had widespread recognition.

Richardson and Moffat discovered that south winds brought ozone and their prevalence corresponded with seasons of fever, hence unfavorable for surgical work. The elder Gross, on the other hand, said he could not remember ever to have postponed an operation on account of the season.

Seasons undoubtedly act with varying power on different persons. There are those who suffer greatly from heat, prostration, syncope, etc., and those who are peculiarly sensitive to changes to cold. The highest state of the functions of the body—respiratory, muscular, etc.—is in the spring, through summer, and toward autumn. After that the carbonic acid vapor exhaled, the volume of air inspired, etc., all lessen, autumn representing the minimum of normal functional activity, as shown by most careful physiological experiments. In other words the system is alive to changes, as the flora and forests are to take on new life. And it is reasonable to say that an augmented reparative power may be looked for. This we see in every chronic case in hospitals during spring and early summer; I think, though, improvement may be due somewhat to the admission of air to the rooms, and the increase in sunshine. Nevertheless the spring offers a helpful power to the surgeon, not only in the recuperative physical action of the body, but in the increased mental attitude of convalescents, who not only sit by open windows, but share the joyousness of the birds, flowers, and sunlight.

Traumatic fever does not seem to be more intense in hot weather, and the septic febrile exacerbations so constantly regarded as malarial at one time, and for which quinine is so often given when the knife should be used to evacuate hidden pus, has been spoken of often as to be looked for in autumn season. In my experience, though in my ignorance I have often said of this, "It may be malaria, let us try quinine," I am free to say I do not recall a single instance where I have been rewarded by the relief of my patient. Hence I have grown to discount this possible complication of surgical work by autumn malarial influence. Yet, if one knew his patient had been in a malarial region during the summer, it would be wrong not to heed the possibility of an outbreak, and advise a course of quinine before operation.

There is often a tendency of work to run in groups. We will see, for example, four or six cases of furunculosis during a month of the year, and go months afterward without another case.

The same experience applies to diffuse phlegmonous inflammations, carbuncles, suppurative ear troubles, purulent tonsillitis, etc. There are months when these prevail. Not the hot months, though we would expect bacterial growth of all sorts to be favored by heat. They seem to be rather the winter and spring months, when from bad housing or epidemic aërial influence the season seems to breed disease. These cause much surgical work, but "do they complicate the cases of impending operation?" is entirely another question. If during January and February the cases of appendicitis of a virulent type prevail, and pneumonia, grippe, diphtheria, and erysipelas are more numerous, does it call for a check of surgical work in cases that can be postponed, as, for example, laparotomies, operation for lipomata, hemorrhoids, calculous, urethral work, ovarian tumors, etc.? That can be answered by considering the death-list in surgical cases at different seasons, and as far as I can discover from my own work, the best results run uniformly through these months.

Do we see pneumonia complicating surgical work during the prevailing epidemics of pneumonia? My experience is quite in the negative. This complication as a sequel of operation is now recognized as due to preventable causes in most cases, and is seen more in certain classes of work, as after tongue excision, strangulated hernias, where feculent vomiting has been associated, tracheotomies, and like cases where inhalation of impure or septic particles have begotten septic pneumonia. Besides these there are some which are thought to be incident to etherization or prolonged dorsal decubitus, but which I feel sure are usually due to brief, though sufficient, chilling of the patient during or just after the operation, or to unrecognized cardiac weakness with secondary pulmonary œdema. Of this latter I have seen one striking illustration this winter in a hospital case where I had performed Kocher's tongue extirpation with perfect convalescence up to the sixth day. The patient had so weak a heart action before operation, that the pulse could hardly be felt at the wrist, though she was in good color and had a fair apex-beat. On the sixth day she had increasing cyanosis, pulmonary râles, and some increase in respiration, frothy expectoration, and oppression. The house surgeon treated her as a case of pneumonia, and failed to notify me. At the end of thirty-six hours she died, and on investigation I found he had signed the certificate pneumonia, whereas she had œdema from cardiac failure. Had he given nitro-glycerine and turned his attention only to the heart, he would probably have

saved her. I had the small satisfaction, at least, of saving the much-abused "pneumonia" from the credit of causing a post-operative death.

Again, in infant hospitals whose subjects afford so constant an illustration of pneumonia complicating many maladies, we have an example of the effect of cold. During the past few weeks, when the sudden cold wave came, I know wards full of infants where the nurses were for a day and a night unable to get the temperature above 50° F. Seven cases of pneumonia resulted, of which three died.

In general surgical wards of our large hospitals, my experience is, that pneumonia is extremely rare, since I have provided for ample warmth and protection for the unconscious patient during and after operation, and for the preventable septic infection from vomit and inhalation by washing out the stomach of hernia cases vomiting, and the liberal use of iodoform packing and boracic acid in mouth, throat, and nasal surgery.

I may record here that I have twice had my private patients suffer after having their nasal bones sawed out under cocaine by specialists and being allowed to continue to go to business. One came down promptly with diphtheria and was saved with difficulty. The other had septic pneumonia and died. Hence I have grown to feel that pneumonia, or so-called pneumonia, after surgical work, which has been sometimes considered a seasonable complication, is really preventable, and that even when there is a prevailing epidemic a given number of surgical patients are even less likely to suffer from it than a corresponding number of the community at large, because they are protected by being in equable surroundings. An epidemic beginning in December, which has recurred for the sixth season and cost three thousand lives in New York State alone last year, according to the record of the State Board of Health, and in previous years five thousand to eight thousand, might be considered a menace to surgical work, did not our hospital wards disprove its effect.

I have thought it would be an argument if the surgical work among infants showed sensitiveness to season, but on analyzing my work of the last two years I find that of more than 100 operations on very young infants with 7 deaths, 1 occurred in April, 2 in June, 2 in October, 1 in November, 1 in December. The largest number of operations being in June and July, with smallest proportion of deaths. Nevertheless I have thought that the summer months were apt to be disastrous for children operated on, on account of the onset of diarrhœa troubles, which I have observed sometimes set in, after hare-lip operations, for instance, when sprue was present. Atmospheric influences in hot weather on operations about the respiratory passages I have taught were apt to complicate, but on looking over 13 hare-lip operations in two years, many of them bad double cases, I find 1 death in June, in 4 cases, none in 3 cases in July, 1 out of 2 in October, and 1 out of 3 in December, other months no deaths.

The argument then for children as for adults is in favor of ignoring the season. Indeed the experience of surgeons to-day will show that, as an illustration of a traumatism, the conduct and results of fractured bones are entirely independent of the season, and, for all practical purposes, any properly conducted surgical operation with aseptic work, and covered in by aseptic dressings is equivalent to a subcutaneous wound which proceeds as harmlessly as a simple fracture.

We may feel then, I believe, that one is in a position to-day to say to any patient contemplating operation, "It is as well to do it now as any other time." For my part, it is a satisfaction to have dispelled the delusion that this might not be true, concerning which I have heretofore had a slight doubt.

It was Goethe who said, "Blest be the man who cures my doubts, and gives me none of his"—and it will, I hope, be of service to the members present to have a definite and final thought on the subject.

THE EARLY DIAGNOSIS OF CANCER OF THE STOMACH.[1]

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CARCINOMA of the stomach is a surgical disease. Although, *a priori*, this axiom seems self-evident, yet its force is made more manifest by the fruitless search for panaceas for this disease. Every remedy thus far proposed for the medical treatment of gastric carcinoma has proven to be worthless, and even the much-vaunted condurango has been relegated to the list of stomachics. A similar fate may be predicted of chlorate of soda, the drug most recently recommended as a cure for gastric cancer.[2] In my hands it has been absolutely worthless; I believe but one paper has been written in its favor since it was first introduced. On the other hand, the surgeons have reported a successively larger number of radical cures; and with the improvement of the technique we have every reason to believe that the various operative procedures will be even more successful. Thus the mortality after resection of the pylorus up to 1885, was seventy-three per cent.; 250 cases reported up to 1890 had a mortality of fifty-eight per cent.; Billroth's mortality up to 1890 was only fifty-five per cent. In 1893, Kocher lost but 2 cases out of 9, *i.e.*, twenty-two per cent., while Hahn lost 1 out 4 which he operated in 1894. The statistics of gastro-enterostomy are even better, as may be judged from the statement of Hahn that he was successful in all of the 9 cases which he operated in 1894.

If we bear in mind that the first pylorectomy was performed in 1878, and that in nearly all of the cases the operation was only performed where there was a palpable tumor, such a reduction in the mortality of so grave an operation is but little short of marvellous, and it is therefore somewhat surprising to find Ewald taking the reactionary stand he did at the recent discussion of this subject at the Berlin Verein für Innere Medicin. From what we now know, we can safely say that every reputed cure of cancer of the stomach by drugs has been a mistake in diagnosis.. Furthermore, even if we cannot remove the neoplasm, we can certainly retard its growth and make the patient's life much more comfortable by gastro-enterostomy.

It were well, then, if the time which is now being spent in searching for specific drugs were devoted to an improvement in our methods of diagnosis, especially such as will enable us to recognize cancers at a much earlier period than has heretofore been possible. A timely operation presupposes a timely diagnosis, and the prognosis of an early operation is improved not alone by the smaller size of the tumor and fewer adhesions, but what is equally important, the patient's strength has not been sapped by the disease.

Our present means of diagnosis are certainly inadequate for this purpose. To wait for a tumor, as is usually recommended, is to wait too long; for it is seldom present before the third or sixth month of the disease, and usually only becomes distinctly palpable in the latter half of the disease, or toward the end of the patient's life. Bouveret claims that the presence of a palpable tumor indicates that the disease has passed beyond the limits of the stomach. Czerny states the presence of a distinctly palpable tumor is a contra-indication to a radical operation.

I need not now detain you with our present criteria, as you are all more or less familiar with them, but shall merely direct your attention to a few salient points on the early symptoms.

Heredity and habits are very unimportant factors in the history of this disease. Two symptoms deserve

[1] Read before the Metropolitan Medical Society, March 26, 1895.
[2] Brissaud: Gaz. Méd. de Strasbourg, May 1, 1894.

attention : one is Leube's statement that the onset of the disease is usually sudden and without any apparent causes in a person who has previously been free from stomach trouble. Schüle[1] studied one hundred and ninety-eight cases carefully, and found the symptoms in seventy-seven per cent. of his cases. Another fairly constant symptom is a more or less marked anorexia, although in a few cases the appetite may at first be increased. The early repugnance toward meat is a symptom to which attention has frequently been called. Vomiting is of early occurrence in cases in which the pyloric orifice is soon affected. Hæmatemesis is rarely a timely symptom. Anæmia and loss of weight are rarely missed, even soon after the onset of the disease. Changes in the motor powers of the stomach are very soon found in these cases, and are among the most important symptoms, as will be shown later on. Schüle denies this, and states that he found a decrease in only thirteen per cent. of his cases. In this he is at variance with most writers, who are quite unanimous that the motility of the stomach is decidedly lessened. Finally I must mention the absence of free hydrochloric acid, pepsin, and rennet-ferment—the results of the atrophy of the gastric mucosa. The significance of the latter has been so often discussed that no time need now be spent in its consideration.

Recognizing the uncertainty of all symptoms, especially in the early diagnosis of the disease, Boas was led to study the relations of lactic acid in gastric cancer. In a previous paper[2] I directed attention to the value of these researches, which I propose to discuss here at greater length.

A faulty technique had led to the belief that lactic acid is a normal constituent of the stomach-contents during the early stages of digestion ; Rosenheim even claimed that it was at any time to be demonstrated in the chyme if we use sufficiently delicate methods. However Boas's researches have finally settled the long-mooted question of lactic or hydrochloric acid by absolutely proving that in all the tests breakfasts and dinners contain lactic acid or its salts. Hence we must not use the various breads, rolls, cakes, milk, and meat. Instead he has proposed a simple meal which consists of an oatmeal gruel (one tablespoonful of oatmeal to one quart of water) to which nothing has been added except a little salt. Another important point is that all remnants of former meals must be removed by a preliminary lavage of the stomach. The best time to do this is in the evening, and then we may give the oatmeal gruel. It is expressed on the following morning.

Boas also studied the various tests for lactic acid, and showed that if absolute certainty is desired, they must be discarded and new methods of his own substituted.

As is well known, Uffelmann's reagent is prepared by adding two to three drops of pure carbolic acid to 20 c.c. of water containing a few drops of tincture of ferric chloride ; the amethyst blue solution which results from the thorough shaking up of this mixture is so unstable that it must always be freshly prepared. The reagent is a delicate one, and even 0.1 per cent. of lactic acid will give a distinct canary-yellow color. Many substances which may occur in stomach contents also discolor the solution ; these are butyric, acetic, and formic acids, phosphates, alcohol, grape sugar, and mineral acids when present in large amounts. However, the reaction produced by these substances (as butyric and acetic acids) is somewhat different from that due to lactic acid and can readily be differentiated by the practised eye, or is not produced after the stomach contents have been extracted with ether. This can readily be done by shaking 2 to 3 c.c. of chyme with 50 to 100 c.c. of ether (which must be free from alcohol) in a separatory funnel ; decant the ether layer into a beaker,[1] evaporate to dryness over a water-bath or a vessel of hot water ; dissolve the residue in 5 c.c. of water, evaporate to a small residue over a flame and add by means of a dropper one to two drops of Uffelmann's reagent. Boas quotes with his approval the modification of Fleischer,[2] in which the ether is not evaporated, but the carbolate of iron solution is added directly to the ether ; shake up vigorously, and if lactic acid is present the lower layer will assume the characteristic yellow color.

The tests proposed by Boas for the absolutely exact determination of lactic acid are by no means as simple and consume too much time to be of clinical value to the busy practitioner. "When lactic acid is heated slowly and cautiously with oxidizing agents it splits up into formic acid and acetic aldehyde. The presence of the latter body can be ascertained by many tests and its quantity determined. The iodoform test is suited for both quantitative and qualitative work. The oxidation is obtained with manganese binoxide and sulphuric acid ; if the aldehyde is then conducted into an alkaline solution of iodine, iodoform is formed. Under proper precautions, a given quantity of aldehyde decomposes a given quantity of the iodine solution, and hence the amount of the former is obtained. Ketone and alcohol, which also give this iodoform reaction, are gotten rid of by boiling the fluid to be examined down to a thick sirupy consistency. Carbohydrates heated with oxidizing agents also give off aldehyde, so that the lactic acid must first be extracted with ether."[3]

Extended researches with this test showed that lactic acid is not a normal ingredient of the stomach contents, and that it is also absent in chronic gastritis, atony of the stomach, neuroses, and non-malignant pyloric stenosis. On the other hand, in 20 out of 21 cases of cancer it was constantly present, and that, too, in quantities large enough to give very positive reactions with Uffelmann's reagent. HCl was absent in all these cases ; no tumor was present in three cases ; in 16 the lesser curvature was involved, in 3 the pylorus, in 1 the anterior wall ; in the remaining case the site was uncertain. In all the cases there was stagnation of the stomach contents.

As the result of these observations Boas claims that with the necessary precautions as to the test meals, etc., the presence of large quantities of lactic acid, combined with stagnation of the stomach contents and the absence of hydrochloric acid, is diagnostic of cancer of the stomach, even in the absence of a palpable tumor.

Bouveret[4] states that he believed lactic acid may be present in marked chronic gastritis and neuroses where there is stagnation of the chyme and the quantity of HCl lessened. As opposed to these theoretical considerations I may state that Cohnheim[5] failed to find lactic acid in six cases of gactrectasis, and fourteen cases of advanced chronic gastritis in which HCl was absent. He also found lactic acid in nine out of ten gastric cancers, and also in four cases of œsophageal carcinoma. He also gives details of a case in which an early diagnosis of cancer, long before a tumor could be palpated, in which the diagnosis was proven by autopsy. Ewald states that he found large quantities of lactic acid in 22 out of 24 cases of gastric cancer, *i.e.*, ninety-two per cent., while Strauss found lactic acid in but 5 out of 129 cases of non-malignant gastric disorders, *i.e.*, four per cent. ; it was absent in gastric ulcer, gastroptosis, neuroses, and dilatation.

I believe that Boas's test will lose much of its value as a clinical method, if the complicated aldehyde test which he has proposed must be carried out in all cases.

[1] Münch. Med. Wochenschrift, No. 38, 1894.
[2] MEDICAL RECORD, February 2, 1895.

[1] A test-tube ought not to be used for this purpose, as the vapor of ether will come off in "jumps," so that much of the contents of the tube may be lost. It may also be advisable to call attention to the fact that all these procedures should be carried on away from any open flame.
[2] Boas's Magenkrankheiten, Bd. I., 3te Auflage, p. 175.
[3] For the exact details of qualitative and quantitative methods, see Boas, loc. cit., pp. 178–182.
[4] Maladies de l'estomac, p. 574.
[5] Deutsche med. Wochenschrift, May 17, 1894.

My own belief is that if we take the precautions of carefully cleansing the stomach and then giving oatmeal gruel as the test meal, Uffelmann's reaction, if well marked, will suffice. Pariser[1] comes to the same conclusion. Even Boas[2] admits that the results of Uffelmann's reagent are conclusive in those cases in which we obtain an intense lemon-yellow color after adding only a few drops of the filtrate of the gruel, or still better, its ethereal extract (to which one or two drops of phosphoric acid have previously been added.) Greater certainty may be obtained by comparing the reaction to the color obtained with a control test with the same number of drops of a 0.2 to 0.3 per cent. solution of lactic acid. But if the result is doubtful, the aldehyde test is to be employed.

So far as can at present be definitely stated, it would seem that the presence of the large quantities of lactic acid is due to the stagnation of the stomach contents and the absence of hydrochloric acid, which offer very favorable conditions for the rapid growth of the lactic acid bacilli. There must be other unknown factors which the active work which is now being done on the gastric fermentations may reveal; although it must be borne in mind that nowhere is lactic acid produced in such quantities as in the cases in question. Stewart[3] has suggested the possibility of the production of a lactic-acid enzyme through the specific agency of the carcinoma.

It is to be specially noted that the stagnation of the stomach contents is not necessarily due to stenosis of the pylorus, but to an infiltration of the muscular layer of the stomach by the neoplasm. Inasmuch as this infiltration is quite marked at an early stage, even before a palpable tumor can be felt, we may have a ready explanation of the early occurrence of the stagnation without evidences of dilatation.

Boas also directs attention to the fact that the absence of lactic acid does not necessarily exclude the presence of a gastric cancer, as it may readily be understood that the conditions favorable to the production of lactic acid do not occur in every case. And yet, if we bear in mind in what a very small proportion of cases lactic acid has been found in non-malignant diseases of the stomach, it may safely be predicated that the absence of this acid is a strong point against the existence of cancer. I am sure that this test will be of value in a large class of doubtful cases of chronic gastritis in which the constitutional symptoms are very well marked and the emaciation quite pronounced, the latter being the result of the patient taking less food in order to escape pain, etc. HCl is very much lessened or absent, and the general appearance of the patient leads us to suspect malignant disease.

The following case, which was admitted to Dr. Alfred Meyer's service at the Mount Sinai Hospital in December, 1894, demonstrated the value of Boas's test in excluding gastric cancer. The patient was a woman, forty-four years of age, who had had some abdominal trouble ten years previously. For four months she complained of vomiting coming on a few hours after eating, preceded by dull, aching pain in the stomach and back. Vomiting relieved the pain. Constipation; amount of urine lessened: globus hystericus. Examination of the abdomen showed that the greater curvature was two inches below the umbilicus, although palpation even under anæsthesia failed to reveal any tumor. Repeated examination of the stomach contents showed that the total acidity varied between 0.65 and 0.87 per cent.; no lactic acid. Urine normal. Hæmaglobin, 65 per cent.; red blood cells, 3,725,000; white cells, 30,000.

All treatment having proved useless, she was operated on by Dr. Gerster. On making a median incision just below the ensiform cartilage, it was found that so closely were the stomach, liver, and intestines bound down by adhesions, that practically no peritoneal cavity existed. Careful examination failed to reveal any tumor. A few large stones were felt in the gall-bladder. The latter was stitched into the wound. The woman died six weeks later, and at the autopsy no cancer was found in the stomach. Similar cases are reported by Stewart[1] and Friedenwald.[2]

Finally, Boas states that we must not depend on this one sign alone, but that it must be associated with the absence of HCl and stagnation of the stomach-contents, and the subjective symptoms above described.

The practical value of Boas's researches has been shown by Cohnheim, Oppler, Rosenheim, Hammerschlag, Schüle, Strauss, Pariser, Stewart, Friedenwald, and others. Hammerschlag[3] was enabled to diagnosticate two cases of gastric cancer early enough to permit radical operation before a tumor was palpable. Rosenheim[4] states that although his own experience and that of Ewald have shown that marked lactic-acid reactions were occasionally obtainable in conditions other than cancer, "yet these were always exceptions, and in the great majority of cases, cancer was found where there was lactic-acid fermentation." Friedenwald's recent paper[5] deserves notice as being the most elaborate and careful study of this subject which has thus far been published. In twenty-nine examinations in nine patients, three of whom were healthy individuals, the other six being cases of nervous dyspepsia, no lactic acid could be found. The same result was obtained in four cases of superacidity, eight cases of atony, two of simple dilatation, eight of chronic gastritis, and four of secondary gastric catarrh. Large quantities of lactic acid were found in four cases of cancer. In all of these examinations, the exact details of Boas's aldehyde test were carried out. Friedenwald's conclusions are that "lactic-acid is never produced after the ingestion of carbohydrate food in any chronic non-malignant disease of the stomach."

I desire to add a few details of two cases in which early diagnosis of gastric cancer were made by this method.

Mrs. F——, sixty years of age. Family history negative. Her only previous trouble was a very obstinate constipation. On December 15, 1893, she complained of having emaciated considerably, and sought relief for pains which came on soon after eating; they were quite severe, began in the epigastrium and radiated backward; anorexia. Examination showed some resistance in the epigastrium; size of stomach was normal; liver somewhat enlarged; right floating kidney. Restricted diet, Carlsbad salt, and bismuth ordered.

December 30th.—Expressed 20 c.c. one hour and a quarter after taking Ewald's test breakfast. It was but slightly digested; acid to litmus; slight reaction to congo red and tropælin papers; Günzburg's test negative; well-marked Uffelmann reaction. Total acidity, 20. Disc of albumin digested only after adding HCl and pepsin.

January 10th.—Preliminary lavage; oatmeal gruel; expression brought up 30 c.c. Reactions same as above; total acidity, 16. Marked lactic-acid reaction both with the stomach contents and ethereal extract.

January 24th.—Had lost seven pounds in two weeks, yet she had fewer complaints since taking large doses of HCl and pineapple-juice at meals.

For a month felt fairly well, and as the result of taking larger quantities of food she gained several pounds in weight. An indiscretion in diet brought back the old complaints, after which she again began to lose ground.

March 1st.—In the left lower portion of the epigastrium a small, hard mass could be palpated, and the whole epigastrium is more tender and resistant than

[1] Deutsch med. Wochenschrift, Vereins-Beilage, No. 4. 1895.
[2] Magenkrankheiten, II. Theil, 2te Auflage, p. 178.
[3] Philadelphia Medical News, February 16, 1895.

[1] Loc. cit., p. 171.
[2] New York Medical Journal, March 23, 1895.
[3] Internat. klin. Rundschau, 1894, No. 34.
[4] Eulenburg's Encyclopædie. 2te Auflage, Bd. XXVI., p. 419.
[5] Loc. cit.

before; succussion. From now on the patient lost ground much more rapidly; complete anorexia and severe pain. The tumor gradually became larger and more nodular; its growth was mainly toward the right side. Hydrochloric acid was constantly absent, while lactic acid could always be demonstrated in large quantities in the stomach contents.

May 18th.—Vomits twice daily; pains are very severe; obstinate constipation. The tumor has grown much larger, so that it could be felt as a large hard mass extending across the abdomen at the level of the umbilicus. Peristaltic waves now visible, and size of stomach increased. A few weeks later had coffee-ground vomit and tarry stools. Signs of gastrectasis very well marked; vomited large quantities of very offensive fluid; tumor had extended especially on the right side, so that now it was of very large size—indeed, when the patient died, a month later, the whole stomach seemed to be converted into a tumor.

There was no autopsy; a very interesting feature of the case was the occurrence of the symptoms of dilatation as the neoplasm gradually grew over toward the pylorus.

Mr. A——, forty-four years of age, came under my care January, 1894. Previous history included neurasthenia and malaria. His present trouble began five months previously with belching and distress soon after taking food; there was only occasionally pain in the epigastrium; vomiting occurred now and then; "once it was as black as ink." Bowels regular; appetite fair. His chief complaint was the constant loss of weight, which began soon after the appearance of the above symptoms. The man was pale and sallow, but by no means emaciated, although he had evidently lost much flesh. Tongue somewhat coated. Heart and lungs normal; liver not enlarged or tender; spleen just palpable; stomach not dilated, the lower border being one inch above the umbilicus; no succussion. Palpation of the epigastrium showed resistance, but nothing definite could be mapped out. One hour after test-breakfast expressed 50 c.c. of acid stomach contents; total acidity 50; no free hydrochloric acid; very marked reaction with Uffelmann's reagent, even after adding only one or two drops; same reaction with the ethereal extract. No pepsin; but rennet-fervent present. Microscopic examination negative.

A few days later oatmeal gruel was given after preliminary lavage; the fluid expressed again showed an absence of HCl, and gave a very decided Uffelmann reaction.

The patient did not return till four months later, when a small tumor could easily be palpated at the pylorus; it was movable externally, and lying above it a small body like a gland could be felt. The subsequent history of the patient could not be ascertained.

Boas's test has recently been criticised by Bial.[1] He carefully studied a case of ulcer of the stomach with atrophic gastritis and gastrectasis. A very much emaciated man was admitted to Ewald's clinic for anorexia, feeling of weight in the epigastrium, and vomiting. On examination the stomach was found dilated, and lactic acid was demonstrated with Boas's method, after the oatmeal gruel had been given. A few days later the man became drowsy; vomiting persisted in spite of lavage, and death occurred in coma. The vomit was free from HCl, but contained lactic acid. Although no tumor was palpable, in view of the above results a gastric cancer was diagnosticated. At the autopsy several ulcers and cicatrices were found near the pylorus. At the cardia there was an atrophic chronic gastritis.

He also quotes the cases of Thayer and Rosenheim as militating against the method. Such criticism is not just, as in these two cases the very important details of preliminary lavage and the use of the gruel were not carried out. For the same reason the results of Johnson and Behm[1] become useless; they report that in 153 persons lactic acid was found and HCl was absent, and yet only 19 of these patients had gastric cancer. How Bial's case is to be explained remains to be seen. Even it does not lessen the practical value of the test, for Boas himself does not claim that lactic acid is to be found in every case of gastric cancer, but that its occurrence is about equal to that of the absence of HCl. It is the association of the absence of HCl and the presence of lactic acid which is of importance. Hence the method is useless in those cases in which HCl persists. Nor must we forget Rosenheim's statement that in twelve to fifteen per cent. of all cases of cancer of the stomach no diagnosis is possible.

Recently attention has been called to other factors which may be of importance in establishing the diagnosis of gastric carcinoma. Oppler[2] has described long, thread-like bacilli, which are immobile and often occur in enormous numbers in stagnating stomach-contents when hydrochloric acid is absent and large quantities of lactic acid are present. Cultures have thus far been unsuccessful. Boas[3] corroborates this assertion.

The same authors have also found that sarcinæ are very rarely seen in the above-described kind of stomach contents. Oppler states that even after adding pure cultures of sarcinae to such stomach-contents, after twenty-four hours neither were any of the organisms to be found with the microscope nor could any cultures be obtained. Furthermore, sulphuretted hydrogen, which may be found in the stagnating chyme of a non-malignant dilatation, is not found in cancer. "It would thus appear that the substances produced in the stomach-contents in cancer are different than those produced by stagnation under other conditions." Hammerschlag[4] claims that the absence of pepsin is also a very important symptom in the early diagnosis of carcinoma. This statement is denied by Oppler. Should further observation establish the correctness of these statements our methods of differential diagnosis will have been much improved.

Finally, another method by means of which some gastric tumors may be diagnosticated much earlier than has been done heretofore is gastro-diaphany. Only such growths as are situated on the anterior wall of the stomach can be discovered in this way. Einhorn, Kuttner, and Jacobsohn[5] have reported cases in which they recognized tumors with the gastrodiaphone.

In conclusion I would state that if future researches shall establish the claims of the various methods above described, not alone will cancer of the stomach be diagnosticated more readily, but, what is of far greater importance, we will be enabled to cope with this disease much more effectively than we have done heretofore.

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[1] Berl. klin. Wochenschr., February 11, 1895.

Stones in Birds' Stomachs.—Gustave Radde has examined the stomachs of many migratory birds in the Crimea, and found that they were almost invariably filled with small pebbles, which he thinks are swallowed in order to mitigate the pangs of hunger in their flight.

The Confusion of Tongues.—The date of the Ninth International Congress of Hygiene and Demography, which is to be held at Madrid in 1897, has now been fixed from October 11th to 18th. The *British Medical Journal* says that the Spanish Government has sanctioned the use of no fewer than six official languages, namely, Spanish, Portuguese, French, Italian, English, and German. At this rate international congresses bid fair to be excellent object-lessons in the "confusion of tongues."

[1] Zeitschrift für klin. Med., Bd. XXII., Hefte 4, 5.
[2] Loc. cit., p. 74.
[3] Centralblatt für innere Medicin, January 19, 1895.
[4] Loc. cit.
[5] Berliner klin. Wochenschr., 1893, No. 39.

SOME FACTS CONCERNING DIPSOMANIA.

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A PHYSICIAN recently sent me a marked copy of the MEDICAL RECORD referring to an editorial "On the Power of a Dipsomaniac," expressing an opinion that I would doubtless endorse it freely, in a half-implied sarcasm.

This gives me an opportunity to say that this editorial gives an outline of some very important facts not understood at present; facts that will revolutionize many of the theories of the present time. It will be of interest to group some of these facts and ask the reader to verify them in his practice and experience. Nearly all inebriates seem to divide into three classes. The members of one class are steady drinkers, sometimes in so-called moderation, and rarely intoxicated; others drink excessively, and are constantly under the influence of spirits. They are most aptly termed demented, and sooner or later merge into dementia. Those of the second class are the periodic cases who drink after distinct free intervals. The drink paroxysm ends after the lapse of a certain time, and begins at another time equally distant. These are the epileptoid cases, and frequently develop epilepsy. The special symptom is the gathering and explosive character of nerve energies. The drink paroxysm, like a storm, dominates every impulse for a time, then dies out, only to recur again in like circumstances and conditions. The brain capacity in the free intervals seems but little disturbed; not unfrequently it is more active, and only in the later stages are there marked changes.

The members of the third class are called dipsomaniacs, and are distinctly insane, belonging to the class of impulsive and reasoning maniacs. The drink mania is a symptom of the dominance of a morbid idea, which may change in many ways. These cases include that large unknown class of so-called "Border Liners" who live on the "frontiers of insanity," crossing back and forth all the time. Neurotics, paranoiacs, moral paralytics, religio-maniacs, eccentrics, and enthusiasts of every grade are all seen in this class. Some of these persons manifest ability and occupy places of trust. When not suffering from the drink paroxysm they are frequently very useful and respected citizens. Some energetic reformers belong to this class, and may make a great stir in the world.

The reader will recall a number of cases of this character, who are known to have drink periods, and who in the intervals display much mental force. It will be observed that such cases are wanting in originality and prudence. They may act along accustomed lines with judgment, but beyond this they are unreasoning and unsound mentally.

The case mentioned in the MEDICAL RECORD has many parallels in all parts of the country. One instance will be recognized in New England, where a man of this class wrecked a bank and a large manufactory in the most childish swindling scheme. He was sent to State prison, and became insane a few months later.

Recently a man with great enthusiasm and energy, known to have drink periods, was placed at the head of a railroad. He made the most extravagant business arrangements, and displayed such bad judgment that the road went into the hands of a receiver finally.

The following case, under my care some time ago, illustrates many of this class: H—— came from a family in which inebriety, genius, and various eccentricities had appeared in every member. He took many honors as a student, and as a lawyer was a very brilliant, promising man. At twenty-five he began to have drink paroxysms in seclusion, at long, uncertain intervals. From this time he displayed great changes of character and conduct. In the midst of some important trial he would become ill, which meant that he would drink to stupor at night, and be sick all the next day. He was elected to Congress, and at times showed much power and excellent judgment; then displayed the very opposite traits. He became involved in low political rings, then posed as an aggressive opponent of corruption. He defended the whiskey ring, then opposed it with wild zeal. In his home life the same strange medley of inconsistent conduct and theories prevailed. His drink paroxysms came on at most unexpected periods, and were usually concealed. After a short period of treatment he abstained for nearly two years, but the same irregular conduct continued. He relapsed, and is still drinking as before. It may be said that every enterprise or theory he becomes identified with is pressed with energy and skill up to a certain unknown point, then abandoned or neglected or denounced with equal energy. He is both a builder and wrecker, and that without any ostensible purpose or motive. His dipsomania is not recognized, and he is only known to have "drink spells" at times. In reality he is a dangerous man, whose conduct has very seriously injured the community in many ways.

The gold-cure schemes have brought out this class, who, after a short experience in so-called treatment, became hysterical defenders of its merits. They have been most active in organizing branch cures, and enlisting capital, by the most extravagant promises of blessings and pecuniary rewards. Becoming officers of these companies sooner or later they relapse, and the pecuniary promises fail, and only the so-called blessings remain. It is only a repetition of common experience, when those who boast most loudly of restoration are the first to fall. The dipsomaniac who attempts the difficult task of curing others in like condition always fails, from conditions that are beyond his power of control.

The exciting cause of the drink paroxysm is often very clear, and can be predicted in advance. In some cases unexpected success in business or special recognition that appeals to his vanity is always followed by a drink craze. Sudden failures or criticisms or anticipated strains provoke the same thirst. Some of these cases show great resistance to the ordinary temptations of contagion of surroundings, strains of business and social life, and when these and other temptations are removed, fall abjectly.

An almost infinite variety of conditions act and react in producing or checking drink paroxysms. At one time a man who is known to have drink paroxysms under certain circumstances, will manifest an unexpected power of resistance, and pass through periods of much mental strain, then relapse at a most unusual time and place. A nephew of a former President, a dipsomaniac, was very poor, with a large family dependent on him. He had abstained for over a year, when called to hear the reading of his uncle's will. This will provided that in the advent of his remaining sober one year from the time of the reading of this will, the trustees should pay him one hundred thousand dollars. Within an hour after the reading of the will he drank to stupor, and continued for a week in great publicity.

A clergyman who was a dipsomaniac of the solitary class, and drank for a week or more in seclusion, among strangers, had abstained for two years. He was called to a rich church in New York, with the most flattering prospect, and on the day of his installation he disappeared, and was found wildly intoxicated in a distant town.

These cases are not uncommon in medical observation, and are not easily explained by any theories of the present. Such persons who are known to have drink paroxysms are still rated as persons of average ability, and capable of acting sanely, consistently, and with good judgment. Physicians in court-rooms swear that such men are fully sane and responsible, and that the drink paroxysm is a transient weakness, which could be overcome at will. This feeling is fostered in

the pulpit and temperance meeting, and these strange insane acts of dipsomaniacs are called moral lapses and obsessions of the evil one, that can be exorcised and driven out at the will of the victim. This is the fatal delusion which permits these cases to go unrecognized and to occupy places of trust and confidence, with continuous and certain failures. It is a startling fact that capital and practical experience has passed far beyond the theories of to-day, both anticipating and unconsciously confirming the most advanced facts of scientific research.

The dipsomaniac and even the moderate or excessive drinker is regarded with suspicion. His capacity, both mental and physical, is considered dangerous in all positions of trust and responsibility. Corporations, railroad companies, and capital everywhere, require total abstainers and are growing more reluctant to employ men who have even the suspicion of being inebriates or dipsomaniacs, irrespective of all skill or ability they may possess. Many railroads discharge workmen who are seen in saloons. Mercantile agencies and insurance companies estimate the capacity and longevity of a man on his history as a total abstainer. In this there is no theory, only experience of the danger of trusting men who use spirits. I think it is true that in many communities there are dipsomaniacs occupying places of trust, as managers of public interests, as professional men, as business men, who are known to have drink paroxysms at times, but in the intervals they are trusted. By and by a series of disasters take place and serious suffering and losses follow, which are attributed to other than the real causes.

The defaulter, the trusted man who wrecks his business; the clergyman or physician who become involved in some great wrong; the judge or lawyer who proves recreant to his trust; the men or women of previous good character, who commit overt acts that astonish the community; the many instances in which great defects of judgment and common-sense appear, not noticeable before in such cases, are in many instances clearly traceable to dipsomania.

These drink paroxysms are always destructive to the higher brain centres. The capacity to reason soundly and consistently is continuously diminished. The brain cells become more unstable, the senses more faulty and imperfect, and the power of co-ordination and discrimination weaker. A literal paralysis, beginning in the highest brain functions and extending down to the lower centres, is present. A clinical study and examination of the higher brain manifestations in these cases furnish ample confirmatory evidence of this statement. It should be remembered that in these cases two conditions are present. One a defective brain organization in a process of degeneration, the other the effects of a paralyzant drug whose action on a healthy brain still further precipitates degeneration. The impulsive, irresistible demand for the narcotism of spirits is a symptom of this condition. The chronicity of the case will depend on heredity and mental defects apparent before spirits are used. But the fact that at uncertain intervals narcotism from spirits becomes a mania which expends itself in distinct nerve storms is unmistakable evidence of unsoundness and disease. The impossibility of any one suffering from these attacks being healthy and of sound brain should never be questioned.

It is assumed in business circles that capital is in peril, and clear, sound judgment wanting in such cases, and why should public sentiment regard these persons with indifference? The facts are accessible in every case, and open to medical study and observation. The following is an illustrative case:

J. B——, a merchant, aged forty-six, had drink crises for seven years; from one to three attacks every year. Is at the head of a large business, and has many responsibilities and places of trust. He is regarded as a strong-minded man in public estimation. His family physician gives the following estimate of him: A gradual change of character and judgment has been going on for years. He has grown more emotional and excitable in his private life. He is depressed and angry at little things, afraid of public criticism, and greatly elated with praise. He is untruthful and slanderous at times, and denies memory of events that appear to reflect on his judgment. Grows more envious and exasperated with small dealers who are rivals. At times is meanly dishonest to his help and then extravagantly generous. Has changed his religious faith three times in four years, also his political faith. He is at times the supporter of strange theories. At one time he was a violent temperance man, then he urged free license, and beer-houses wherever asked for. After a drink paroxysm he is sceptical and dishonest, treats everyone with rudeness, and tries to take advantage. Before the drink craze he is just the opposite and extremely credulous. His pride of appearance, and his business integrity are lowered, and the ability to concentrate his mind on any topic long is lost. Physically an irritable heart, enlarged liver, with attacks of indigestion, and insomnia are present. He has made several wills in the course of two years, and his family are greatly distressed at his changed conduct, and changeable feelings. In his business he is much the same, deferring to others at times more than usual, but otherwise giving little evidence of change.

Recently I was consulted concerning a similar case of a dipsomaniac who in public life was considered a strong, vigorous man, but in his family circle was so irritable as to be delirious and unreasonable to a degree that was unbearable. His drink period was the only quiet season in his family circle. Close study of his public life showed a marked failure of both reason and strength.

Another similar case occupies a very responsible position, but so far he defers to others on all matters of importance. But at any time he may insist on carrying out some faulty, insane reasoning, to the loss and suffering of many. Physicians who are called to advise in such cases should take clear, broad views, along scientific lines, above all theories or popular notions. There should be no hesitation in the recognition of unsoundness and degeneracy in all such cases. A man with drink paroxysms is essentially one of weak, defective judgment, and not only unbalanced, but unstable, untrustworthy, and liable at any time to be possessed with morbid impulses, not only for spirits, but in other directions equally abnormal. The dipsomaniac is always over the line of sanity, always abnormal, strange, erratic, foolish, cruel, or criminal. Dementia, mania, paresis, epilepsy, are all before him, and are sure to follow, unless some acute disease terminates the case in some other way.

Dipsomania should be recognized practically by all medical men, and treated in a clear, vigorous way.

A Horrible Habit.—An esteemed contemporary has this to say about the smoking of cigarettes: "It subserves avarice, deludes ignorance, preys upon weakness, panders to vice, depletes the purse, enfeebles the mind, and destroys the body; and is a sin toward God, an outrage upon nature, and a curse to mankind." Gracious!

A Newly Discovered Foramen.—Dr. J. W. Hartigan, Professor of Human and Comparative Anatomy in the West Virginia University, informs us of his discovery of a foramen in the base of the transverse process of a lumbar vertebra in the human subject. This, he says, has never been noticed by any anatomist, so far as he is informed. Henle's case was one of union, by a bridge of bone, of the mammillary and accessory processes, an entirely different thing.—*New York Medical Journal.*

ANTITOXIN IN THE TREATMENT OF DIPHTHERIA IN YONKERS, N. Y., AND THE RESULT.

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SINCE the introduction of antitoxin serum in 1890 a new and very important change has taken place in the treatment of that most fatal of juvenile diseases, diphtheria. Owing to the failure of Koch's tuberculin in 1891, much caution has been properly exercised in the practical application of the new remedy. Now, however, after repeated experiments by men of reliable scientific ability and the actual practical application of this most important discovery, there seems to be no well-founded objection to its use. It is hardly necessary to add the fact that antitoxin serum was a very scarce article in the United States until recently, and consequently was not available to any practical extent until the latter part of 1894, and indeed the first consignment consisting of one vial reached Yonkers late in the month of September last, and the supply continued very limited until the latter part of January of the present year. Since the beginning of February, however, the supply has been nearly equal to the demand, and as a result the mortality from diphtheria has been wonderfully reduced. For example, during the year 1891, the mortality from diphtheria in Yonkers was fifty per cent. of those who suffered from the disease; in 1892, fifty per cent.; in 1893, it was 47.36 per cent; and in 1894, when antitoxin was employed to a limited extent, the death-rate was reduced to 34.09 per cent., while in January, 1895, the mortality dropped to 16.66 per cent., and for the two months ending March 31st, the death-rate was still further reduced to 12 per cent.

It will thus be noticed that a remarkable saving of human life has been accomplished in this little city through the use of antitoxin, not only by its curative effects, but also by its potency in protecting or immuning children exposed to diphtheria.

I will now briefly relate my individual experience in the use of antitoxin, and will submit the following typical cases for consideration:

CASE I.—J. N——, aged four. Saw the patient in consultation with Dr. Wolf, October 30th at 3 P.M. The doctor informed me that the child was taken ill in the morning of October 28th and that he saw the patient that evening, when he observed a patch of membrane on the left tonsil and notwithstanding active treatment the child became rapidly worse, with considerable extension of the diphtheritic membrane to the larynx, etc.

At my first visit the temperature was 103.5° F.; pulse, 120; respiration, 28; voice husky, face pale, breath fetid, difficult deglutition, urine scanty and one-quarter albumin. I advised the use of antitoxin, and at 5 P.M. same day administered 5 c.c. of Behring's antitoxin No. II. Saw the child next morning at 11 A.M., and found all symptoms about the same as those of the previous day, except the urine, which was one-half albumin. We now repeated the injection, 3 c.c. of antitoxin, and employed appropriate treatment for the kidney complication. Saw the child next day, November 1st, 11 A.M. Temperature, 100° F.; pulse, 90; respiration, 22. Membrane disappearing; had four hours' sleep during the night; but the urine was almost suppressed and three-quarters albumin.

November 2d, 10 A.M.—Rested well during the night; membrane missing; temperature, pulse, and respiration, normal.

November 3d.—Had a restless night, passed some urine, albumin slightly diminished, takes nourishment better.

November 4th.—Patient much better apparently, but the urine is nearly solid.

November 5th.—Nephritis worse, patient semi-comatose.

November 6th.—Uremic convulsions terminated the life of the little patient at about 3 P.M.

CASE II.—October 31st called to see M. C——, aged eight. Patient fairly well nourished, complained of headache on the previous day; some difficulty in swallowing. Temperature, 102° F.; pulse, 109. Some difficulty in breathing, and a diphtheritic patch about the size of a five-cent silver piece on right tonsil; slight hoarseness; urine, normal. Prescribed the usual remedies. Called the next morning at 9 A.M. Found the patient very restless. Temperature, 103° F.; pulse, 118; breathing embarrassed, anxious expression of features, difficult deglutition, right tonsil and posterior wall of the pharynx covered with a grayish-white membrane, hoarseness more marked, croupy cough. Procured a culture for examination. Administered 5 c.c. of Behring's antitoxin No. II. Discontinued all forms of internal and local treatment except stimulants. Called again the same afternoon at 5 o'clock, found no abatement of symptoms; stimulants increased. Saw the patient again at 9 P.M. Slight improvement noticed. Injected 10 c.c. of Behring's No. II. antitoxin. Called the following morning at eight o'clock and found the patient much better. Had three hours' sleep during the night. Temperature, 100° F.; pulse, 90; stridulous breathing had disappeared; membrane diminishing and discolored; general condition much better.

November 2d, 9 A.M.—Patient still improving; anxious to get up. Temperature and pulse normal, breathing normal, and hardly any diphtheritic membrane visible. Stimulants discontinued.

November 3d.—Patient rapidly improving; no complication.

November 4th.—Continues to improve and is feeling almost perfectly well. Microscopical examination of cultures revealed an abundant supply of Klebs's bacillus. Patient anxious to return to school; is perfectly well.

November 7th.—No return of any symptoms of diphtheria; no reaction from antitoxin. Patient well.

CASE III.—November 6, 10 A.M. N. G. F.——, aged four years and three months, had been sick thirty-six hours, the glands of the neck were much enlarged, tonsils red, large, and inflamed, right tonsil and uvula nearly covered with diphtheritic membrane. Considerable exudation in both nasal cavities. The face was pale, and there was a perceptible fetid odor from the breath; skin, hot and dry. Temperature, 103 ⅛° F.; pulse, 140; respiration, 30 per minute. Immediately injected 5 c.c. Behring's antitoxin; directed to wash the mouth, etc., with a solution of salt in water by means of a fountain syringe; every three hours milk and brandy, etc.

November 7th, 9 P.M.—Patient rather worse; temperature, 104° F.; pulse, 148; respiration, 33. Membrane extending into the larynx; croupy breathing. Injected 10 c.c. Behring's antitoxin. Called in the afternoon at four o'clock. Patient no better. Temperature, pulse, and respiration showing no improvement; some hemorrhage from nose. Injected 5 c.c. antitoxin. At 10 P.M. found the little patient brighter. Temperature, 102⅜° F.; pulse, 120, and strong; respiration, 26. Stimulants continued.

November 8th, 9 A.M.—Temperature, 100° F.; pulse, 90; respiration, 24. General condition improved and takes his nourishment freely. Stimulants continued. 8 P.M. Temperature, 99° F.; pulse, 88; respiration normal; membrane nearly gone.

November 9th, 9.30 A.M.—Temperature, pulse, and respiration normal. No diphtheria membrane visible; stimulants discontinued. Heart, lungs, and kidneys normal.

November 10th.—Patient continues to improve, no reaction from the injections of antitoxin.

November 12th.—Patient sitting up, apparently well.

CASE IV.—November 13th. W. W——, aged ten years, school-boy, sick one day before my first visit. On examination a patch about the size of a dime piece was observed on the left tonsil; pulse, temperature, and respiration slightly above normal. Prescribed iron internally and salt solution locally and a generous milk diet.

November 14th, 10 A.M.—Temperature, 101° F.; pulse, 106; respiration, 26. With much extension of the diphtheria membrane, involving the uvula and right tonsil and extending into the pharynx, the nasal cavities were also involved, and the general condition of the patient was much worse. I now injected between the shoulders 10 c.c. of Behring's antitoxin. Called again at 5 P.M., and found some improvement and no extension of the exudation.

November 15th, 9.30.—Membrane becoming detached, removed a piece nearly the size of a ten-cent piece from the right tonsil, and a good-sized plug of membrane from the nose. Temperature, 99.75° F.; pulse, 86; respiration normal.

November 17th.—Patient says he is perfectly well and thinks he should be allowed to prepare for school.

November 20th.—Called again and found my patient out of bed and perfectly well, no return of any abnormal symptoms, no reaction from the antitoxin.

CASE V.—November 29th. F. C——, female, aged seven; school-girl. On November 28th she complained of a chilly feeling and headache while at school in the morning, remained home that afternoon and became rapidly worse, and when I saw her first her temperature was 101.5° F.; pulse, 114; respiration, 26. Both tonsils and posterior pharyngeal wall were covered with false membrane, accompanied by much difficulty in swallowing anything. I at once injected 10 c.c. of Behring's antitoxin No. II.; ordered gargles of salt and water, milk, but no stimulant or other internal treatment.

November 30th, 9.30 A.M.—Patient better. Temperature, 100° F.; pulse, 100; respiration, 20. The patient, however, developed some diphtheritic bronchitis, for which appropriate treatment was employed.

December 1st.—The diphtheritic membrane very much diminished and discolored. Bronchitis more marked. Temperature, 101⅛° F.; pulse, 104; respiration, 26; urine normal; heart sounds normal.

December 2nd, 10 A.M.—No return of the exudation; general condition of the patient much like that of yesterday.

December 5th, 6th, and 7th.—Not much change to note.

December 8th.—Bronchial inflammation yielding. Temperature, 100° F.; pulse, 98; respiration, 22.

December 10th.—Patient much better, but prostrate.

December 12th—Continues to improve and is anxious to get up.

December 14th.—No reaction from the antitoxin; patient well, but still suffering from prostration. A generous diet and tonics directed.

December 20th—Last visit, patient well.

CASE VI.—December 14th. J. McC——, aged nine years and six months. The mother noticed a barking cough the day before my visit, which became worse during the afternoon and evening, when she used some domestic remedies which on previous occasions she said cured the croup. On examination there was noticed only slight redness of tonsils and uvula, no membrane visible, no swelling of the glands of the neck. Temperature, 99⅞° F.; pulse, 100; respiration, 16, and labored, both in inspiration and expiration; pupils dilated; anxious expression of countenance; cadaverous color of face; traces of albumin in urine.

Diagnosis: Membranous croup, possibly diphtheritic in character. I at once procured a culture from the vicinity of larynx and submitted it for examination. Prescribed the usual remedies for croup. Called at 6 P.M. same day, found the patient very much worse, with evident signs of impending suffocation, the nares were plugged with false membrane and the exudation seemed to extend down the larynx, probably invading the trachea. I now injected 10 c.c. Behring's antitoxin. Whiskey, digitalis, and nux-vomica every hour in small doses.

December 15th, 8 A.M.—Patient passed a very restless night. No sleep until about 5 A.M., when the symptoms became less urgent and one hour's sleep was procured. At my visit, however, the respirations were still sibilant, surface cool, pulse rapid and feeble, countenance pale and livid, heart action rapid but feeble; treatment continued, with increased stimulants. Called at 3 P.M. same day. All symptoms worse; constant tossing and plunging of patient. Refuses all nourishment and medicine. Prognosis grave. I now requested a consultation, and suggested intubation as a last resort; but the mother would not submit, saying: "A neighbor's child died after forcing that thing into his throat, and if the child was going to die he will die anyhow;" and for the same reason a consultation was refused. I now injected 25 c.c. of antitoxin as prepared at the Pasteur institute (Roux's formula), and directed emetics of turpeth mineral occasionally, and whiskey per rectum; digitalis and nux vomica hypodermically. Called again at 10 P.M. same evening, expecting to find my little patient dead, but to my surprise found him very much relieved, all the distressing symptoms having decreased and the patient breathing rather freely and now takes his milk and whiskey.

December 16th, 9 A.M.—Patient rapidly improving. Slept four hours during the night. Vomited several pieces of membrane in the early morning, since when the breathing was almost normal. Temperature and pulse normal, as it was throughout the attack. Report from culture examination "abundant diphtheria bacilli."

December 17th.—Patient still improving. The act of vomiting cleared not only the larynx and trachea, but also the nares, of all detached membranes, and the breathing was perfectly normal.

December 18th.—Patient most anxious to leave the bed. Says he must go to school, although he is still weak. No return of former symptoms, nor reaction from the antitoxin.

December 20th.—Still improving and seems well.

CASE VII.—December 27th. F. M——, aged ten months; sick two days previous to my visit. Child poorly nourished. Temperature, 101° F.; pulse, 120, and weak; respiration, 28. Left tonsil covered with a yellowish-white membrane; slight bronchial trouble; urine normal. Having Pasteur's antitoxin with me I injected 10 c.c. at 11 A.M. Called at 4.30 P.M. same day and found the temperature, pulse, and respiration slightly improved. Moderate stimulants ordered; salt and water wash for the mouth and nasal cavities.

December 28th.—Patient not much improved. Injected again 10 c.c. Pasteur antitoxin, and increased stimulants.

December 29th.—My little patient better. Is nursing well; membrane nearly gone, moderate stimulation continued. No other internal treatment.

December 30th.—Child very much better; but the back and chest covered with a rash very much like nettle-rash. Called four days later and found my little patient well and the erytheme all faded away.

CASE VIII.—F. W. N——, aged four. Has been unwell for two days. The glands of the neck were enlarged; tonsils red and œdematous, with slight exudation on left side. Temperature, 100° F.; pulse, 110; respiration, 26. Painful deglutition. Prescribed the usual remedies. Called at 4 P.M. same day.

December 28th.—Child growing worse. The breath was offensive, and indications of a grave case were well marked. I now injected 15 c.c. of Pasteur's antitoxin, discontinuing all other internal treatment, the child being unmanageable.

December 29th, 9 A.M.—Child much improved.

Temperature, 99° F.; pulse, 96; respiration normal. Membrane discolored and diminishing.

December 30th.—Patient continues to improve. Temperature and pulse normal. Only a small portion of membrane visible.

December 31st.—No trace of the exudation visible.

January 2d.—Child steadily improving; no reaction.

CASE IX.—J. M——, aged six years, complained of frequent chills, nausea, and vomiting three days previous to my visit, January 6, 1895. These symptoms were accompanied by severe headache and hemorrhage from the nose. No enlargement of the glands and no difficulty in swallowing; but, as the mother put it, the child became very stupid. On examination I found the soft palate and posterior wall of the pharynx covered with the characteristic membrane. Temperature, 98.75° F.; pulse very rapid, wavy, and compressible; skin cool and clammy; face pale; tongue dry and the odor from the mouth most offensive. The patient drowsy and almost comatose; heart sounds weak and irregular. Urine one-eighth albumin. Prognosis very unfavorable. At 10.30 A.M. I injected 15 c.c. of Pasteur's antitoxin, also a hypodermic of digitalis, tincture nux vomica combined with whiskey; hot-water bags, bottles, etc., to the feet, hands, and in fact to all parts of the body. Called in again at 11.30 A.M., at which time a slight improvement in the character of heart and pulse was perceptible. I now repeated the hypodermic of digitalis, nux vomica, and whiskey and directed stimulants every half hour and frequent cleansing of the mouth. Called again at 4.30 P.M., same day and found the patient in a semi-comatose condition. Repeated the hypodermic, and continued the hot applications and stimulants. At 10.40 P.M., same day, the temperature was 99.75° F.; pulse, 98, and improved in regularity. Hypodermic repeated, and the extremities being now warm the hot applications were removed and stimulants continued. At 12 midnight found my little patient still in a critical condition, although, owing to the stimulants, the circulation was somewhat improved.

January 7th, 1 A.M.—I injected 25 c.c. of Pasteur's antitoxin. Called at 8 A.M. same day and found the patient, to my surprise, better, with a temperature of 100° F.; pulse, 102, full and regular. General condition improved. Membrane discolored and slightly detached. Stimulants, digitalis, and nux vomica continued. 3 P.M.: Improvement continues; takes nourishment freely. 8.30 P.M.: Temperature, 101° F.; pulse, 98; respiration, 22; epistaxis, etc. Administered 10 c.c. antitoxin.

Called next morning at 8.30. Patient was restless and unmanageable during the night until 3 A.M., at which time he dropped into a sound sleep which lasted four hours; woke refreshed and much improved. At my morning visit the temperature and pulse were normal, membrane shrunk and very much diminished. Continued the stimulants, digitalis, etc.

Called next day at 9.30 A.M. Patient still improving and all traces of membrane absent. No reaction from the antitoxin.

January 12th.—Made my last call, patient well.

CASE X.—G. ——, aged two and a half, female; bottle-fed; scrofulous tendencies. Examined the child January 10, 1895, and observed the following condition: Temperature, 100° F.; pulse, 92; respiration, 20; glands enlarged; tonsils swollen, the left tonsil and soft palate dotted with a yellowish-white deposit; fetid odor from mouth. This child had been ill for two days previous to my visit. Diagnosis, diphtheria, and having antitoxin with me I at once injected 5 c.c. Behring's No. II. No other treatment except stimulants and frequent cleansing of the mouth, etc.

January 11th.—Patient better; temperature, pulse, and breathing improved.

January 12th.—Membrane disappearing.

January 13th.—No membrane visible; tonic treatment ordered.

January 15th.—Child is well; no reaction from use of antitoxin.

CASE XI.—A. C——, aged seven. Saw the child January 16th. While attending school, three days previous to my visit, the teacher noticed the boy looking ill, and immediately sent him home. He now complained of a headache, sore throat, nausea, and occasional vomiting. Temperature, 102° F.; pulse, 68; respiration, 18, and of a wheezing almost whistling character. Face rather flushed; eyes protruding; and an extreme restless condition, tossing from one place or position to another, grasping at imaginary objects, etc. The tonsils, soft palate, and pharynx inflamed, but no membrane visible. The voice hoarse, muffled, with a very troublesome, dry, hacking sort of cough. Inspiration and expiration very difficult; the superclavicular and intercostal regions retracted with each respiratory effort. Prognosis: No hope of recovery. However, 10 c.c. of Behring's serum was injected. Stimulants, digitalis, and nux vomica hypodermically, the heart sounds being weak and irregular. Saw the patient again that afternoon at three o'clock, seven hours after the administration of antitoxin; patient no better. Called again at 8 P.M. All symptoms more grave, membrane probably extending into the trachea and bronchi. Stimulants increased to the utmost limit, emetics of turpeth mineral to prevent if possible the impending suffocation. Fifteen cubic centimetres of Gibier's antitoxin injected. Called next morning at seven o'clock, and found the little sufferer apparently dying. Cyanosis very pronounced and breathing almost impossible, clutching at everything in view. Hypodermic injection of a mixture composed of five drops of tincture of digitalis, five drops of tincture of nux-vomica in brandy was now employed, and 25 c.c. of Gibier's antitoxin was injected. The throat was now again examined, as it was yesterday. But at this examination I observed what seemed to be an exudation on the posterior wall of the pharynx. I now left my little patient to die, as there seemed no hope for him; requested the family to let me hear from him if living at noon.

Not hearing from my patient up to 1 P.M., I visited him once more, and to my surprise found him somewhat relieved. Treatment continued. Saw him again at 10 P.M.; repeated the hypodermic of digitalis, etc. Called the following morning at nine o'clock; found my patient still improving, the face less cyanotic, breathing better, and temperature normal, but the membrane, which seemed to have extended from the larynx upward to the fauces, still present. 5 P.M.: Improvement still continues, the deposit of the pharynx and soft palate diminishing, but the patient still very much prostrated. Stimulants, etc., continued.

January 19th, morning.—Passed the night without any return of unfavorable symptoms, had three or four hours' sleep. Takes nourishment better, but there is still much prostration present.

January 20th.—No membrane visible. General condition improved.

January 22d.—Well.

CASE XII.—January 26th. Female, aged eight months. Had been ill three days. Had all the symptoms of septic poisoning. Temperature, 98.25° F.; pulse very rapid, thready, and extremely feeble; cardiac sounds feeble and irregular; urine albuminous; dyspnœa; soft palate, tonsils, uvula, and nares lined with membrane; cold clammy skin, etc. Told the parents that the child was beyond all hope of recovery; but they implored me to use the new remedy. At 11 A.M. injected 10 c.c. Behring's serum. Directed hot applications to the whole body, and administered a hypodermic injection of brandy, digitalis, and nux-vomica, the heart and kidneys being affected and the urine albuminous; also the use of antiseptic lotions, etc.

January 27th.—Morning call. Patient seemed a little better, 10 c.c. antitoxin injected. The other treatment

continued. Called in the afternoon at four o'clock and found, to my surprise, a marked improvement. Digitalis, nux-vomica, and brandy continued.

January 28th, 10 A.M.—Child still improving. Temperature, pulse, and breathing normal. Heart sounds muffled, with evidence of endocarditis and a systolic murmur; but all traces of the exudate gone, and the little patient crowing and apparently very much better. Digitalis, nux-vomica, etc., continued.

January 29th.—Child passed through the night nicely, except some troublesome breathing at my visit; there was considerable dyspnœa, and an examination of the chest revealed extensive œdema of both lungs, yet the little patient would sit up in its crib in spite of its mother.

January 30th, morning.—Patient gave vent to a few loud screams and breathed her last about five minutes before my visit.

CASE XIII.—February 13th. Male, aged five. Second day of illness. To be brief, this patient presented every symptom of laryngeal croup and was cyanotic, in fact suffocating. Twenty-five c.c. of Pasteur's serum was injected at 5 P.M., hypodermic of digitalis, nux-vomica, brandy, etc., with directions to give an emetic of turpeth mineral when the symptoms of suffocation became very urgent. Called the next morning and found the child playing with its toys, and was indignantly informed by the mother that I made a mistake, her child had, as she said, no croup or diphtheria, and the only thing the matter with the child was a part of a goose quill it had in its mouth which accidentally slipped back and stuck in its throat, and the emetic, or as she said, the yellow powder, made him vomit up at midnight, since when he was all right. I then requested to see what the child vomited, but was told it was thrown into the fire and burned; I then asked her to describe the goose-quill vomited. She began by saying "that it was about an inch or more long, open at one end, and nearly closed at the other, and was a good-sized goose-quill, but a little soft because it was so long in the child's throat." I then, of course, tried to explain to her the nature of the vomited matter, but she would not be convinced, until her second child, aged two years, was prostrated with diphtheria. My goose-quill patient continued to improve, and in a few days was well, while his little brother had a pretty severe attack of diphtheria, but the exudation did not extend to the larynx; and the child made a good recovery in due time after one full dose of antitoxin. (Case XIV.)

CASE XV.—March 20th. Saw this child, aged five, in consultation with Dr. Wolf. Tonsils covered with membrane; temperature and pulse abnormal; child poorly nourished, etc. Injected 6 c.c. Behring's antitoxin.

March 31st.—Child well.

And now to be brief in describing the remaining twenty cases up to and including all cases coming under my observation to April 1, 1895, I will merely make comparative statements.

Cases XVI. and XVII. were almost similar in symptoms and treatment to that of No. II. Cases XVIII. and XIX, much like No. XII. Cases XX., XXI., and XXII. like Case IV. Case XXIII. like Case V. Case XXIV. like Case No. VII. Case XXVII. like Case IX. Case XXIV. like Case X. Case XXX. like Case XI., except in the mode of invasion of the exudate, which in this case was from the trachea to the fauces. Cases XXXI., XXXII., XXXIII., XXXIV., and XXXV. were mild in character as compared to the first twelve cases, probably on account of the early use of antitoxin, it being employed in every one of these cases during the first twenty-four hours of the disease. The goose-quill before referred to was unquestionably a cast of the trachea, or perhaps of the bronchi, and although the symptoms strongly indicated membranous croup, yet a culture examination proved it to be diphtheria. While the last twenty cases which I have briefly referred to were not exactly like those with which they are compared yet the symptoms and course were so nearly like them that a separate description may be considered irksome to the reader.

The antitoxin treatment, you will observe, has been successfully employed in thirty-three out of the thirty-five cases in which it was used. Of the two deaths which occurred, the first (Case I.) I am convinced would have recovered were it not for the malignant nature of the acute nephritis with which it was complicated, and which, from all I can learn in shape of a history of its invasion, was more primary than secondary to the diphtheria. The second death (Case XII.), the child was in a moribund condition when I saw him and had been ill for three or four days. This delay, combined with the fact that the child was strumous, bottle-fed, and poorly nourished, rendered his case hopeless.

At least twenty of these thirty-five cases were of the class called malignant, and in my experience and practical treatment of upward of three hundred cases of diphtheria during the past twenty years, not less than fifteen of the twenty would have died in spite of the best-known treatment prior to the use of antitoxin. Ten of the remaining fifteen might perhaps have recovered without the serum, but when it is considered that I employed the new remedy only in cases which, in my opinion, presented grave symptoms (mild cases being treated without the serum), it is questionable whether or not even this number would have survived. Many of those cases presented symptoms of the most grave and fatal character, particularly those in which the larynx, trachea, or bronchi were involved, symptoms which convey a thrill of despair to the mind of the experienced physician and which tell him plainer than words that he is powerless in his efforts to stay the onward march of this most fatal disease. Intubation of the larynx was suggested in four of these cases, but refused. Tracheotomy was also recommended, with like result, antitoxin alone, under Providence, prevented the impending fatal termination of those cases. When there was any doubt of the clinical diagnosis a culture was procured and forwarded to Dr. Park for examination and in every case abundant Klebs-Lœffler bacilli were found.

There was no reaction in connection with the use of Behring serum except in two cases where a considerable advance in temperature was noted, but after the use of the Pasteur serum a mild form of erythema appeared in four cases in from twelve to twenty-four hours after the injection, lasting only a few days, then fading away leaving no unpleasant symptoms behind. The only objection I can name to the use of Pasteur's antitoxin is its bulky condition and consequently the large amount necessary for hypodermic injections, in other respects I found it very satisfactory.

The only internal or local treatment employed in connection with the serum was tr. nux vomica, tr. digitalis, and alcoholic stimulants internally and a solution of chloride of sodium locally, for irrigation of the mouth and nose; tincture of iron in a few cases. We know that intelligent nursing and good sanitary surroundings contribute materially to the successful treatment of diphtheria, and that the absence of those conditions plays an important part in the fatal termination of such cases. Twenty of these cases were children of the most dependent class, and came under my observation in my capacity as Health Officer, and in those cases intelligent nursing and good sanitary regulations were for the time out of the question. Six of my cases were followed by paralysis of a mild form, which gradually disappeared, and complete recovery followed. Four of my convalescents could not swallow nourishment for from two to four weeks after all urgent symptoms disappeared, due to paralysis, and were fed per rectum. The greatest caution was observed in sterilizing the syringe and in the use of antiseptics. The syringe employed was the Pasteur syringe, which held 25 c.c.

In conclusion permit me to say that I had very decided objections to the use of antitoxin in diphtheria, and it was not until convincing reports from well-known scientific investigators were published in the MEDICAL RECORD that I, with still some misgivings, ventured to employ the new remedy. Now it is needless to say that I am completely converted, and am at present a firm believer in its merits.

Since reporting the foregoing I have successfully treated five more cases of diphtheria with antitoxin, making in all forty cases and two deaths.

IS THE PRESENT LOW MORTALITY IN DIPHTHERIA DUE TO THE USE OF ANTITOXIN SERUM?

BY JOSEPH S. HEALY, M.D.,

KINGSBRIDGE, N. Y.

WERE we to accept the apparent results from the use of diphtheria antitoxin serum in the hands of numerous observers, we might be tempted to abandon all of our tried and well-known line of therapeutics, and trust the patient's life to the serum alone. However, the fiasco of Koch's lymph is of too recent a date to permit unchallenged the acceptance of the statistics furnished by the advocates of antitoxin serum at home and abroad.

My recent experience with diphtheria, while not very extensive, is insufficient to convince me that other factors are at work which have more to do with the low mortality than the serum. During the present winter I have treated fourteen cases of diphtheria where Lœffler bacilli were found in abundance. The majority of the patients living within the city limits, the diagnosis was confirmed by a bacteriological examination made in the laboratory of the city Health Board. Of these fourteen cases of true diphtheria, I used the antitoxin serum in but three, but did not dare trust to it alone.

My first experience with the serum was in the first week of December on a child aged sixteen months who contracted the disease from his brother, whom I was then treating by our ordinary methods. In this case there were laryngeal symptoms and considerable prostration. I injected the serum, furnished by the Pasteur Institute, which resulted in an increased prostration for the succeeding twenty-four hours, after which time improvement was marked and convalescence rapid; but the membrane disappeared no sooner than in the case of his brother, and the bacilli existed for two weeks after the injection. This being my second case of diphtheria during the recent epidemic I was more impressed with the apparent efficacy of the new remedy than subsequent experience warranted.

My second trial of the serum was in the case of a child aged eighteen months, where I again used the Pasteur serum without any apparent effect one way or the other, and, as in the preceding case, the bacilli were present two weeks after the injection. In my most recent case of diphtheria I used Behring's serum. The case was a very light one, but the fifth culture, taken five weeks after the injection, contained bacilli.

Of the eleven cases treated with our older methods, without exception they made as perfect a recovery as where the serum was used, and in but one instance were bacilli found after two weeks from the taking of the first culture, and in that single instance the mother thought it too much trouble to carry out the treatment and the patient recovered virtually without any treatment, but the bacilli existed for nearly two months.

As a prophylactic, the first injection I made was on my own person, using 7 c.c. of Roux's formula. For the first five days following, no symptoms of reaction developed. On the sixth day an intense pruritus occurred around the seat of injection. On the seventh day I was suffering from the most severe attack of urticaria I have ever witnessed, lasting a week, and at times almost making me frantic. Five weeks ago I again injected the equivalent of two hundred normal units of Behring's serum into my thigh, and in four days afterward suffered from another attack of urticaria, though not so severe as in the first instance. I have never had an attack of urticaria previous to these two.

In the case of a child aged fifteen months, whose nurse contracted the disease, a culture from its throat showing Loeffler bacilli, I injected Behring's serum. Two subsequent cultures, taken three days apart, contained the bacilli. The fourth and fifth cultures contained no bacilli. During this entire period absolutely no symptoms of diphtheria developed. I injected the serum into nine other cases who had been exposed to the contagion, all of whom escaped the disease. As to whether these people would have developed the disease had the serum been omitted is an open question.

The statistics furnished by the advocates of the serum therapy are very encouraging, but do they prove anything? These advocates apparently ignore the fact that epidemics of diphtheria vary greatly as to malignancy; also an epidemic malignant at its commencement loses its virulence after a time and the mortality drops accordingly.

Another factor appears to be bacilli associations. According to several careful observers, if the Loeffler were not associated with strepto- and staphylo-cocci the prognosis was excellent and recovery the rule; but where these cocci were present the mortality was very high. Have the serum advocates carried their observations to this point and demonstrated a low mortality where these cocci existed? If so, their statistics are enhanced in value, but I can recall no instance where this has been done.

It appears to me we are passing through a very low dip in the mortality curve, such as happens in the course of all endemic diseases, and if such is the case, the large majority of the patients will recover, providing no line of treatment is adopted which did harm. I say providing no harmful therapeutics are attempted, because I am convinced that many of these little patients might have recovered were it not for the too energetic treatment adopted, such as swabbing and brushing the throat, denuding the surface of membrane, leaving a raw surface presenting a new field for reinfection and further poisoning.

I am aware of the fact that in one hospital abroad, while using the antitoxin serum, the mortality was very low; the supply of serum being interrupted the mortality increased until a fresh supply of serum was available. This would apparently demonstrate beyond question that the low mortality was due to the serum; but were there no other factors at work when the serum supply was exhausted? What was their treatment of the patients at that time?

While the serum may be all that it is claimed to be from a therapeutic standpoint, I do not think the statistics furnished during the recent epidemic as valuable as they appear, and a far greater period of observation is necessary before the claimed value of the serum can be admitted as an established fact. I shall continue the use of the antitoxin serum wherever I can; carefully observing its effects, but until its value has been proven by far more crucial tests than have been made so far, I do not think we are justified in trusting the lives of our patients to it alone.

2886 BAILEY AVENUE.

A Testimonial to Sir Henry Acland.—Subscriptions are being received for a testimonial to Sir Henry Acland, upon the occasion of his retirement from the Regius Chair of Medicine at Oxford. It is proposed that this testimonial shall take the form of a provision for the increased usefulness of the Sarah Acland Home for Nurses, an institution named after his late wife.

ANTITOXIN IN DIPHTHERIA.

By J. C. DAVIES, M.D.,
EMMETSBURG, IA.

THE reports thus far appearing in the MEDICAL RECORD on the antitoxin treatment of diphtheria are chiefly from the city hospitals. Having seen few cases reported in general practice, I have ventured to submit the subjoined report embracing the results of 21 cases treated with Behring's antitoxin, without a single death. Of this number 7 were under five years of age, 4 between five and eight years, 2 between eight and twelve years, 4 between twelve and sixteen years, and 4 were adults. Nine were affected in a severe form; of this number 4 were under five years of age, 2 under six years, and 3 under twelve years of age. In the remaining 12 cases the disease never reached a severe type, though their ages ranged from infants two years old to fifty-two years. Six cases were completely immunized after direct exposure, and no diphtheritic symptoms developed.

In 6 cases the antitoxin was given with the earliest manifestation of the disease, or within twenty-four hours after the appearance of the membrane, and in each instance the disease was either aborted or so modified that its course was comparatively light.

Of the 9 severe cases none were seen till the disease had progressed from the third to the seventh day. The disappearance of the membrane and subsidence of all active symptoms were complete in from two to three days. In 9 cases a mild rash, unaccompanied by any irritation of the skin, appeared over the face, neck, and some portions of the body, and, with one exception, disappearing the same day. In 1 case the rash persisted for about eight weeks without any noted results. In 3 cases there were marked renal complications with sharp albuminuria, and in 1 case, a boy four years of age, paralysis of the velum with bronchial inflammation and tedious convalescence.

The maximum amount of antitoxin used in any one case was 10 c.c. of No. 2, with 8 c.c. of No. 3 in a boy fourteen years of age. The minimum amount used was 4 c.c. in the smallest children, for immunizing purposes; number of doses in any single case, 3. The place selected for injecting was the interscapular region, the instrument used a large hypodermic syringe. No abscess or induration followed the introduction of the needle, which was always carefully cleaned in absolute alcohol after first washing with warm solution of boracic acid. The contents of a vial from which there had been used about 4 c.c. two months before, and which had twice been frozen solid subsequently to its having been opened, was used successfully in the case of a boy, four years of age, on the fourth day of the disease, and while it did not suffice entirely to remove all the membrane it arrested the progress of the disease until the arrival of a fresh supply a few days later, thereby saving the little patient's life. I mention this simply to show that neither two months' time nor the freezing to which it was twice subjected destroyed its therapeutic value. This was a severe case and the only one followed by paralysis. In one case of laryngeal diphtheria, in a girl twelve years of age, the symptoms promptly disappeared, although the case had reached an alarming stage before the administration of the antitoxin.

In all cases where the disease had made any considerable progress before the administration of antitoxin, alcoholic stimulants, together with iron and quinine, were given in connection with it; with the exception of the case of paralysis mentioned in the small boy, all recoveries were complete and uneventful. No cultures were made, as in two of the families there were several deaths before the administration of antitoxin. And, furthermore, exposures to these earlier cases resulted in at least seven other fatal cases in the adjoining country.

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OUR DUTY IN ABORTION CASES.

THE report of the censors of the Medical Society of the County of New York, made on Monday evening last, considers the course to be pursued in cases of abortion requiring medical aid from reputable practitioners. The necessity for some definite understanding of the subject has become apparent in view of the arrests from time to time of respectable physicians who in their regular practice have been summoned to patients in extremis the victims of criminal operations by professed abortionists. More particularly, however, the said report became imperative in view of a recent case formally brought to the attention of the Society and to which we had occasion to refer at the time. Our comments were based upon our obligations as physicians to comply with the law, and thus insure for ourselves that protection, which as good citizens and willing helpers of suffering we had a natural right to obtain. The censors after a deliberate discussion of the fundamental questions at issue substantially agree with the principles as advocated by the MEDICAL RECORD.

It is very properly maintained in the report that the physician is morally bound to attend any patient in the capacity of medical attendant, irrespective of the character of the individual requiring his assistance. This is an obligation founded on the law of ordinary humanity. When granting this, however, the physician owes it to himself and his reputation to make use of all the means of legal protection against complicity in any criminality. This duty is forced upon him by the circumstances that surround him. He is virtually on the defensive rather than the offensive side of the argument. The common law and the articles of the Penal Code take precedence of the ethics of his own profession and the necessities of the situation absolve him from any endeavor to uphold the code of a class against the statue of a state. The power of deciding rests legally with those who have the right to enforce it, whether the law giving that power is or is not just.

In reference to the question whether or not a physician should divulge any information obtained from the patient, and which may be necessary under the circumstances "to enable him to act" as medical attendant the censors very properly are non-committal leaving debatable points to such interpretation as may be necessary for self-protection. In attempting to define the

position of the physician in these cases the censors endeavor, ingeniously, if not successfully, to draw the line between the really criminal, and the properly professional aspect of the situation. The report says although the law requires that a physician should divulge nothing he has learned in the capacity of a physician "necessary to enable him to act," the method of treatment in these cases is in no wise affected by a knowledge that the cause of the trouble was criminal or not. This may tend to quiet his professional conscience, but does not absolve him from legal responsibility. The simple fact is, the law requires that in all doubtful or suspicious cases he must make a report either to the Coroner or the Health Department. This is the beginning and end of the whole matter; he can put what construction he pleases upon the purely professional aspect of the question, but he must conform to the law, whether he believes in it or not. In this regard, as numerous cases have proven, he cannot afford to take any risks. All individual responsibility is offset by the superior and overwhelming obligations which the common law impose. The censors very properly believe in such a construction, and recommend that the attending physician give its interpretation the freest possible liberality in the interests of his personal safety.

The assertion in the report that there is no crime in failing to report a suspicious case when death does not take place may be open to question. Indeed we hardly think its validity would stand in a test case, inasmuch as the law contemplates punishing attempts at abortion, either directly or indirectly by the patient herself or the operator. The best method of reporting these cases as suggested by the committee is similar to that advised by the MEDICAL RECORD. The preference of course should be for a medical coroner, whose professional duty under the circumstances would be to gather the necessary evidence independent of that given by the physician and not unnecessarily implicate the latter before the public or a jury in an alleged violation of professional obligation.

The advice to take to such cases a consultant or other medical witness is reasonable and necessary, and will commend itself to everyone called to a suspicious case, wherein operative or other treatment may be urgently necessary.

PRESCRIPTIONS IN LATIN.

MANY innocent persons, says the New York *Times*, have died before their time because doctors persist in making out their prescriptions in what passes for Latin. The latest victim of this habit is a baby three months old, the son of an East Side tailor named Cohn. The child had a cold, and Dr. Herman Jarecky, who was called to attend him on Sunday, made out a prescription which, when filled, was to contain, among other ingredients, three drams of castor-oil. The doctor did not write "castor-oil," but "Ol. Ricini."

The drug-clerk used "oleum pini" instead of "oleum ricini," and two doses of the medicine killed the baby —so says the *Times*. The editor thereupon attacks, with the usual arguments, the practice by physicians of using Latin in writing their prescriptions.

However correct the critic may be, his present illustration of the alleged evils of Latin is unfortunate. There is no such thing in our dispensatories as *oleum pini*. There are *oleum pini foliorum* and *oleum pini sylvestres foliorum*; and if these drugs had been indicated the prescription could have been understood in any part of the civilized world. The baby did not die therefore because the prescription was written in Latin. The essential fault and danger in prescription-writing after all is bad and careless writing by the doctor, and hasty reading by the druggist. We do not see how changing the prescriptions into vernacular would help matters, and it would make infinite confusion and trouble to students of the literature of therapeutics.

The teachers in our colleges ought to teach prescription-writing with more care, and that will prove a simpler and more effective remedy than writing prescriptions in Latin.

THE FATAL FOOTBALL.

EVERY season we hear much of football casualties, and of the brutality of certain noted players. The newspapers have a standing head-line, "Football Casualties," and the popular belief that the game is a dangerous one is almost universal. Yet some defenders of the sport contend that this general condemnation is unjust, that we hear of the few accidents, just as we do of other exceptional occurrences, but that the great numbers of games that are played without incident or accident pass unnoticed. In the recent annual report of the Board of Visitors to the Military Academy at West Point the Committee on Hygiene and Athletics presented some statistics which would show that the opponents of football as it is now played have reason on their side.

From a study of some tables prepared by Dr. Harvey from the hospital records for two periods of three months each in 1892 and 1893, the following figures were obtained:

Football injuries	91
Injuries in riding-hall	45
Injuries in gymnasium	19

But this is by no means a fair comparison, for there were but 61 football players, while those under instruction in the riding-hall numbered 382, and those in the gymnasium 207. Furthermore, football was played but once a week, while the riding exercises took place three times a week, and those in the gymnasium six times. Finally, the football injuries were, as a rule, more severe than those sustained in the riding-hall or gymnasium.

"So far as we know," the Committee reports, "this is the first contribution of accurate comparative data of these three forms of athletics in the same institution, under identical surroundings and by the same class of men. If the frequency of gymnastics (six times a week) of riding (three times a week), and of football (once a week) are taken into account it shows that per man playing there were respectively from about twenty to over one hundred times as many accidents in football as in the riding-hall and in the gymnasium, and that the gravity of the accidents as measured by the number of days lost per man playing or per man injured, or by

the number of men off duty per diem, is vastly greater from football than from either of the other two forms of athletics."

These figures are most instructive and speak loudly in favor of the proposed amendments to the rules, whereby the "mass plays" and other of the more dangerous features of the game are to be done away with. Unless such changes are made, popular opinion is likely to demand that football be suppressed by law, and put on the same level as the prize-ring.

News of the Week.

The Illinois State Board of Health.—The Faculty of the Northwestern University Woman's Medical School of Chicago recently passed resolutions of regret that the State Board of Health had seen fit to grant a license to practise to students of the college who had failed to pass the graduating examination. The State Board was requested to make its standard of qualifications at least as high as that of the best medical college in the country.

The American Academy of Medicine will meet in Baltimore, Md., on Saturday, May 4th, and Monday, May 6, 1895, under the presidency of Dr. J. McF. Gaston.

The Association of American Medical Colleges will hold its sixth annual meeting at the Rennert Hotel, Baltimore, Md., on Wednesday, May 8th, at 2 P.M. It is rumored that an attempt will be made at this meeting to recede from the action taken a year ago providing that "graduates of later date than 1898 be required to furnish evidence of attendance upon four years of medical lectures, in different years, of not less than six months' duration each." It is greatly to be hoped that this attempt will be unsuccessful.

Dr. Elon J. Lawton died in Rome, N. Y., on April 18th, of apoplexy. He was born sixty years ago. He was for many years coroner of Oneida County, and for the past five years was an alderman of the city.

Association of Acting Assistant Surgeons.—A special meeting of the Association of Acting Assistant Surgeons of the United States Army will be held in Baltimore, Md., May 8th, during the coming session of the American Medical Association.

Association of Military Surgeons of the United States.—The fifth annual meeting of this Association will be held in Buffalo, N. Y., on May 21, 22, and 23, 1895. In addition to a number of addresses, the preliminary programme contains the titles of thirty-three papers on subjects relating to military surgery. The officers of the Association are: *President*, George M. Sternberg, Brigadier-General and Surgeon-General, U. S. Army, Washington, D. C.; *First Vice-President*, Louis W. Read, Colonel and Surgeon-General, National Guard of Pennsylvania, Norristown; *Second Vice-President*, Albert L. Gihon, Medical Director, U. S. Navy, Washington, D. C.; *Secretary*, Eustathius Chancellor, Lieutenant-Colonel and Medical Director, National Guard of Missouri, 515 Olive Street, St. Louis; *Assistant Secretary*, Julian M. Cabell, Captain and Assistant Surgeon, U. S. Army, Washington Barracks, Washington, D. C.; *Treasurer*, Lawrence C. Carr, Major and Surgeon, National Guard of Ohio, 143 W. Seventh Street, Cincinnati; *Chairman Committee of Arrangements*, Albert H. Briggs, Major and Surgeon, National Guard of New York, 267 Hudson Street, Buffalo, N. Y.

The Buffalo Medical and Surgical Journal is fifty years old this month, and the editor, Dr. W. W. Potter, proposes to signalize its semi-centennial anniversary by enlarging the journal and making other improvements that will keep it abreast of medical progress. We extend our congratulations to our esteemed contemporary, and hope it will live to celebrate many more semi-centennials.

Cholera on the Red Sea.—The cholera is spreading rapidly in the quarantine lazaretto at Kemeran, on the Red Sea. There have been sixty deaths among the Mecca pilgrims landed by the steamers Mohammadi and Jubeda. The filth in the lazaretto is regarded as the main cause of the outbreak.

New York Lying-in Asylum, Blackwell's Island, N. Y.—Dr. Samuel Marx and Dr. Clifton Edgar have been appointed visiting obstetricians to the New York Lying-in Asylum, Blackwell's Island.

Infant Insurance.—A bill has been reported to the Massachusetts Legislature, providing that no life insurance company shall issue a policy upon the life of any child living in this State under ten years of age. The penalty is $100 for each offence, the law to take effect September 1, 1895.

Russian Precautions against Epidemic Disease.—Russia has established a medical staff at its consulate at Meshed in Persia, to watch and give notice of the appearance of epidemic diseases in Northern Persia. Caravans entering Russian territory must obtain bills of health from it.

The Austrian Health Resort, Toplitz, in the province of Carniola, has been almost entirely destroyed by fire. This is not Toplitz-Schönau, which is at the other extremity of the empire near the northern boundary of Bohemia.

Dr. John W. Coles, a retired surgeon of the United States Navy, died at his home in Philadelphia, Pa., on April 6th, aged fifty-five. He entered the navy in May, 1863, as an acting assistant surgeon. On January 14, 1867, he was promoted to passed assistant surgeon. His last service was as surgeon at the Philadelphia Naval Hospital and as a member of the Medical Examining Board. He was placed on the retired list on February 5, 1885.

The Cholera is very prevalent in various parts of China, including Hong Kong and the Portuguese possession of Macao, near Canton. The governor of Hong Kong has refused to declare a quarantine against Macao, despite the protests of many of the leading physicians of the city. The plague exists also in the northern part of the empire, and has been brought into Japan by the troops returning from China. In the Pascadoro Islands, where the Japanese forces have been stationed awaiting reinforcements, there were over eight hundred deaths from cholera up to the mid-

dle of April. The epidemic is said to be now abating. In the naval station of Moji, in Southern Japan, there were many cases during the early part of March, but the disease has since been stamped out. It is feared, however, that much disease will follow the return of the Japanese troops from China.

A Free Hospital is Not Liable.—In a case recently appealed to the Supreme Court of Connecticut where the plaintiff claimed damages for alleged maltreatment in the Waterbury Hospital, the Court sustained the plea of the defence that the hospital was not liable, as the treatment was made without charge and the attending physicians had no fees.

Charaka-Samhita.—The twelfth part of this interesting translation has been received. It deals with the effects upon the human body of various articles of diet, herbs, fruits, milk, wine and water.

A Medical Witness in Contempt of Court.—Dr. J. N. Dixon, of Springfield, Ill., was called as an expert witness by the city in a suit against the latter to recover damages for an injury sustained in a fall. The city refused to pay the witness anything for giving expert testimony, and the witness thereupon declined to give an opinion. The court held that he was obliged to answer the hypothetical question, whether paid as an expert or not, and upon refusal fined him $25 for contempt of court. Dr. Dixon has appealed to the appellate court of the State, and the question will be decided in May.

A Case of Leprosy was recently discovered in the Roosevelt Hospital in this city, and the newspapers are making as much noise over it as if it were one of cholera or the plague.

California Wishes its Quarantine Under National Control.—The California Legislature has before it a joint resolution providing "that our Senators in Congress be instructed and our Representatives requested to urge upon the Secretary of the Treasury that the Department assume entire control of the Maritime Quarantine Service at the port of San Francisco." Assembly Bill 627 is intended to separate the Quarantine Service of San Francisco completely from the present municipal authorities, and, in conformity with the joint resolution already referred to, place it under the exclusive control of the Federal Government.

An Anglo-American Medical Society, consisting of the English-speaking physicians of Berlin, has been organized in that city. The secretary is Dr. H. Wossidlo —which is not a Yankee name.

The Influence of Climate on Health and Disease is about to undergo a systematic investigation by the Department of Agriculture with a view to ascertain to what degree local climatic peculiarities may favor or resist the development of specific diseases, and to discover in what parts of the country invalids and health-seekers may find climatic surroundings best adapted to the alleviation or cure of their particular cases. The work is to be conducted through the medium of the Weather Bureau, and the co-operation of the various boards of health, public sanitary authorities, associations and societies, and of the medical profession generally, is earnestly solicited. What business the Department of Agriculture has with climatology, chemistry, bacteriology, and clinical medicine, we fail to see. Such work as this should be done by a National Bureau of Health, if the nation undertakes it at all.

Of the One Hundred and Forty Medical Schools in the United States there are, we believe, only fourteen which absolutely require a four-year course of medical lectures. Nearly one hundred schools announce that they graduate on three terms of lectures, and about twenty-five on two terms, the length of the term varying from five to nine months. The four-year colleges are—New York: College of Physicians and Surgeons, Medical College and Hospital for Women, Homœopathic Medical College and Hospital, Woman's Medical College of the New York Infirmary; Pennsylvania: University of Pennsylvania, Woman's Medical College of Philadelphia; Massachusetts: Harvard University Medical School, Boston University School of Medicine; Michigan: Department of Medicine and Surgery, University of Michigan, Homœopathic Medical College, University of Michigan; Illinois: Northwestern University Medical School; Tennessee: Maharry Medical Department of Central Tennessee College; Maryland: Johns Hopkins Medical School; North Carolina: Leonard Medical School.

Serum-therapy of Erysipelas and Puerperal Fever.—M. Roger claims to have discovered a new fact in relation to serum-therapy (*British Medical Journal*). He renders mules immune, and thus obtains a serum which cures erysipelas and puerperal fever. On February 6th a patient at the Maternity was treated with this serum for puerperal fever. Her general condition was very grave. Eight grammes of serum were injected without any result; the next day an injection of 16 gm. was followed by a slight improvement. On the third day, after an injection of 25 gm., the improvement was rapid; eight days afterwards the patient left the hospital. M. Roger's serum is efficacious in all maladies owing their origin to the presence of streptococci. Dr. Marmorek reports that he has used the serum in 46 cases of erysipelas with complete success.

A Monument to Villemin, the discoverer of the infectivity of tuberculosis, was unveiled in the military hospital of Val-de-Grâce, on March 31st.

Vote of the German Congress of Internal Medicine Upon the Diphtheria Antitoxin. — At the conclusion of the discussion before the above Congress on the value of the serum-therapy of diphtheria the following resolution was adopted: "That this meeting is of opinion that no harm had been done to the patients by the antitoxin treatment, that the majority of observers had seen good results, and that the experiments concerning immunization were not yet sufficient and should be continued."

Amalgamated Twins.—Dr. F. B. Heisordt (*Journal of the American Medical Association*) reports the birth of twins, the mother being a light-haired German woman and the father a negro; one of the twins was white and one black.

The Consumption of Absinthe has more than doubled in Paris in the last seven years (Lancereaux). The amount consumed in 1892 was 129,672 hectolitres.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, March 1, 1895.

BEVERLEY ROBINSON, M.D., CHAIRMAN PRO TEM.

Are There Seasons of the Year Favorable or Unfavorable for Surgical Operations?—DR. ROBERT ABBE read the paper. (See p. 516.)

DR. JOSEPH D. BRYANT said he had been very much pleased that Dr. Abbe had brought this subject to the fore. It was one to which we rarely found a line devoted in the text-books. Personally he had not given it much consideration, although he was aware of the fact that Richardson—he believed it was Richardson—had estimated from statistics that October, February, and May were the best months for operative procedures, while January and some other months which he did not recall had been stigmatized as being the most unfavorable.

Dr. Bryant thought it was a fair proposition that shock was more severe in cold weather and a dry atmosphere than in a damp atmosphere, by reason of the fact that evaporation from the body would be faster in the former case and perhaps militate slightly against recovery. He should feel that in a damp climate, or where the atmosphere was loaded with vapor, a patient suffering from shock would be comparatively safer than where the atmosphere was clear and dry. But he did not believe that this entered sufficiently into the case to warrant a surgeon in hesitating about a proposed operation. He should say that if it were possible to select a pleasant day for operating he would do it, not only on account of the effect upon the patient's sensibilities, irrespective of barometric influences, but also on account of light. On the other hand, he should never select a day when there was a rising barometer; he should prefer one when the barometer was falling or low. He did not wish, however, to have it assumed that he would hesitate for a moment with an operation with the idea that next week or next month the condition of the barometer or weather might have a better influence on the patient and the result of the operation.

DR. E. L. PARTRIDGE remembered that Dr. Emmet, in his book on uterine diseases, devoted about a page to the consideration of facts which he regarded as more or less adverse to successful major surgical operations where small things might turn the scale. He objected to a sunless day.

DR. W. T. BULL was in accord with Dr. Abbe in the view that writings upon this subject had apparently been based for the most part upon incorrect observation and explanation of facts. The question had been asked him frequently whether it was not undesirable to operate in the summer. His invariable answer had been that according to his experience patients did exceedingly well during the summer, and that many complications which flourished at other seasons of the year were entirely absent. He had based that statement on a pretty long experience with summer hospital work. The explanation was easy to find. In the summer the hospital wards were pretty thoroughly deluged with fresh air, and they were not as crowded with operative cases. The latter fact enabled the staff to give attention to every detail in the treatment. He thought the results of hospital work in the winter and spring months were not as good as in the summer for the further reason that the germs which caused suppuration and the inflammatory complications which attended wound healing were more active in hospital wards during winter and spring. Patients had frequently expressed to him the notion that they would not be as comfortable after an operation in the summer, and he had generally assured them that during hot weather people with a minimum of clothing lying abed were better off than those who were up and about their occupations.

Dr. Bull said he was aware that there was a notion among some physicians that erysipelas and other troubles might exist more at certain seasons of the year than at others. While he did not wish to name anybody in particular, lest he should misquote him, yet he was pretty sure that one of the surgeons of the Woman's Hospital had stated at one time that operations were less likely to succeed in February and March than at other times of the year. Dr. Bull thought the explanation was not to be found in the barometric or weather conditions, but rather in surroundings which favored at the one season suppuration and other accidents in wounds. He did not think the states of the weather outside had much influence on the heated air inside of hospitals where major operations were performed. He frequently observed a higher temperature in the rooms of hospitals in the winter than one had to deal with during the summer.

It might not be pertinent to the paper, but he would express the personal conviction that there was a disadvantage in accumulating a large number of patients who were to be operated upon in one institution. He thought the results were better in smaller hospitals than in larger ones. In order to give the members who were not surgeons an opportunity to participate in the discussion he would say that it seemed to him undesirable to have many patients with tubercular disease near surgical wards. It struck him that the accumulation of a large number of tubercular patients was likely to have far more influence on the course of surgical operations than the barometer or season of the year.

DR. GEORGE F. SHRADY had not had the pleasure of listening to the forepart of the paper, but taking the drift of the discussion which had followed, he ventured to add his testimony to that which had already been given with regard to the practicability of operating at any time and at any season and also at any place and under any conditions when it was considered necessary. He had operated in hospitals which had all the hygienic surroundings and in others in which these were deficient, and he did not recollect any particularly disastrous results even from formidable operations when the operations themselves were properly done, the patients ready, and the appliances at hand for observing antisepsis. He had done operations in the coldest weather, with the thermometer way down, and in the hottest weather in June, and he did not recollect any especially bad results from either of these extreme conditions.

In reference to barometric change, he did not think it had much influence. When the patient was ready, he thought the moral effect would be much better to operate at once than to wait for a fair day. He saw no other advantage in operating in the morning instead of in the afternoon than that one would have daylight in case of secondary hemorrhage or other accident a few hours later.

In reference to the presence of tuberculous patients in adjoining wards, he could not say that it had had any particular influence on the result of his operations at St. Francis', where a goodly number of tuberculous patients were on the same floor. In fact, although the beds were quite crowded there, they had exceptionally good results, and he attributed it to the fact that they carried out antiseptic precautions very thoroughly. In his opinion it was the treatment of the patient and of the wound, and the condition in which one placed his patient after the operation, which had more influence on the result than anything else, season of the year, time, place, barometric pressure, or thermometrical elevation.

DR. SAMUEL SEXTON said he had not had much experience in the hospitals of the city, and could not

speak of results from that standpoint. But he had always been impressed with the good results which they had had in the army during the war of the rebellion, where the wounded were treated in fields, in tents, during the summer, sometimes during the winter, during all sorts of weather. It was very rare to have any erysipelatous complications, and patients did well with all sorts of troubles which were surgically dealt with. He had often thought of that when reflecting on the overheating of hospitals in the city by indirect radiation from steam and hot-air pipes. He believed such overheating must be a great disadvantage in treating surgical cases.

One thing which Dr. Sexton thought had considerable influence on the effect of operations, was a feeble heart-action, which favored congestion and catarrhal inflammation, and it was his belief that the primary cause might be what one could call the electrical condition of the patient. Such tendency to congestion and catarrhal inflammation had been observed where the nerve-power was low, the heart-action feeble, and he had often thought such influences had been induced by conditions and surroundings of which little was yet known. It was well known to physicists that large collections of static electricity were floating about under the crust of the earth and that the terrestrial electrical conditions were changing constantly, and he had often thought that much of the depression observed after operations was due to withdrawal of electricity from the body. He did not know of any other way in which we got replenishments of electrical energy except from the earth. Probably we did not generate it ourselves, and yet it appeared to have an important influence on our being and on operations, although he was unable to make any exact statements with regard to it.

Dr. R. F. Weir remarked that the great trouble with material bearing on the subject under discussion which had been presented in the past was its unreliability. A statement of his preceptor was that if one could operate during the season of the year when the windows were open he would have better results. He had been interested in Dr. Bull's testimony, rather encouraging operations during the summer season. Dr. Weir himself had not operated much during the summer, but when he had he thought the post-operative course of the disease had not been quite so pleasant, yet it had not been seriously interfered with. He mentioned two works, one by Weir Mitchell, which had some bearing upon the subject.

Dr. Clement Cleveland had been interested in the subject in his connection with the Woman's Hospital, where it had been traditional a number of years that certain seasons were bad for operations. He remembered that during his early days at that institution as house surgeon, and for a few years afterward, February and a part of March were looked upon as the black months of the year. Dr. Emmet had postponed a good many of his serious cases in February until a later month. The speaker had compared the results of his own work during different seasons of the year carefully, and he had not found any difference. They no longer felt at the Woman's Hospital that there was any month of the year when it was unsafe to operate, and he thought the reason was the introduction of thorough asepsis and antisepsis. He did not know that anybody connected with the hospital now felt that February and March, for instance, were bad months.

Dr. A. A. Smith having been asked to make some remarks upon the influence of tuberculosis, replied that he thought there was more than a probability in Dr. Bull's statement regarding the influence of tuberculous patients upon surgical cases in the same hospital, However, he did not know that it could be proven. It was certain that tuberculosis was communicable, and communicable by way of open surfaces anywhere, under certain conditions.

The president, Dr. Robinson, made some remarks in connection with the statement, incidentally made in the paper, that in two cases of operations upon the nose, perhaps necessary ones, pneumonia or respiratory trouble followed. It might not be in direct line with the discussion, but Dr. Robinson wished to express his firm belief that a great deal of unnecessary surgery was being done upon the nose, especially in view of the ultimate result upon the respiratory powers of the patient. Only last evening the statement had been made in his presence at a musicale that one of the singers had this winter submitted to a surgical operation upon the nose, since which time she had had a series of colds which she had not been able to check. It was perfectly clear in Dr. Robinson's mind that an unnecessary operation upon the nose would be likely to result in an extremely sensitive condition of the respiratory organs, a degree of sensitiveness which it would take long to get rid of. The nose was an organ which had numerous functions, and certainly one of those functions was to regulate in a large degree the temperature of the inspired air. If then, one made, for instance, an unnecessary hole through the nose, he felt certain that it would produce serious effects, although nothing might be immediately obvious except much discomfort to the patient.

Dr. Abbe made some concluding remarks. He had been glad to hear the remarks of the gentlemen who were in a position to speak with authority. In general they had corroborated his own experience. He admitted to having long had a sort of feeling that there were certain seasons of the year when it was unfavorable to operate, but on looking up the statistics of operative work he had satisfied himself that there was no ground for the feeling. He did believe, however, that there was a very strong personal equation which probably affected every surgeon, and was, perhaps, the cause of a prejudice in his mind against certain seasons. For instance, in the spring of the year we were apt to be tired from the protracted work of the winter and to feel much depressed when for any reason cases went unfavorably, and we were disposed to attribute it to the season. But when gynecologists, for instance, were able to report a series of one hundred successive laparotomies without a death, it was pretty good evidence of the safety of operating at all seasons of the year. Regarding the notion that the summer diarrhœa of children carried off so many patients after surgical operations, he would admit that it might complicate the case, but he did not think the possibility of such occurrence ought to interfere with surgical work.

Respecting the barometric pressure, that was a different thing, it varied from week to week and from day to day throughout the year. He had never seen but one instance, and this was a striking one, where a falling barometer seemed to have had a decided influence on the patient's condition. Several years ago he attended a child of three years very low with erysipelas. Yet he saw no reason why it should not recover after one or two days more of fever. There came up a very violent thunder-storm and depressing condition of the atmosphere, which even influenced himself. He was in another part of the city, yet feeling it might not be well with the child, he hastened to its bed-side and there learned that he had been sent for; the child seemed moribund. Undoubtedly it had been depressed to the lowest degree by the devitalizing influence of a rapidly falling barometer. During the peals of thunder and strokes of lightning he worked over the child an hour or two, and with difficulty succeeded in restoring it to life. He had since then felt anxiety for very ill patients during rapid change of barometric pressure, and he thought there was some reason for it, but that was only incidental to the subject of the influence of the seasons.

Regarding tuberculosis, Dr. Abbe said he did not think it had anything to do with genêral hospital crowding.

Case of Landry's Paralysis.—Dr. Beverly Robinson reported the following case:

John W——, aged nineteen; German; single. Family history negative. Personal history: Rheumatism five years ago, was laid up nine months with it. Denies cardiac, hepatic, renal, or venereal history. Patient has only a moderate alcoholic habit. Present trouble began last Friday with numbness in feet. This lasted till Sunday, when patient lost power in legs and arms; at this time there appeared pain in lumbar region and in limbs.

October 3, 1894.—To-day dysphagia has appeared and he has vomited. Patient was exposed to cold and wet while out fishing a week before onset. Patient well nourished, face flushed. Heart apex fifth space in nipple line; impulse slightly heaving; action regular; no murmurs. Lungs, liver, spleen, and abdomen negative. Knee reflexes abolished. Marked loss of power in lower extremities, more particularly in flexion. There is tenderness on grasping legs and thighs and apparently some diminution of sensitiveness. Marked loss of power in grasping, especially in right arm, also diminution of power in moving arms, more marked on right side. Sensation of conjunctivæ greatly diminished. Pharynx markedly anæsthetic. Renal muscles seem somewhat inactive. Tongue slightly coated. Patient unable to protrude tongue to full extent or to open mouth widely, also dysphagia. Pulse regular, soft, good force.

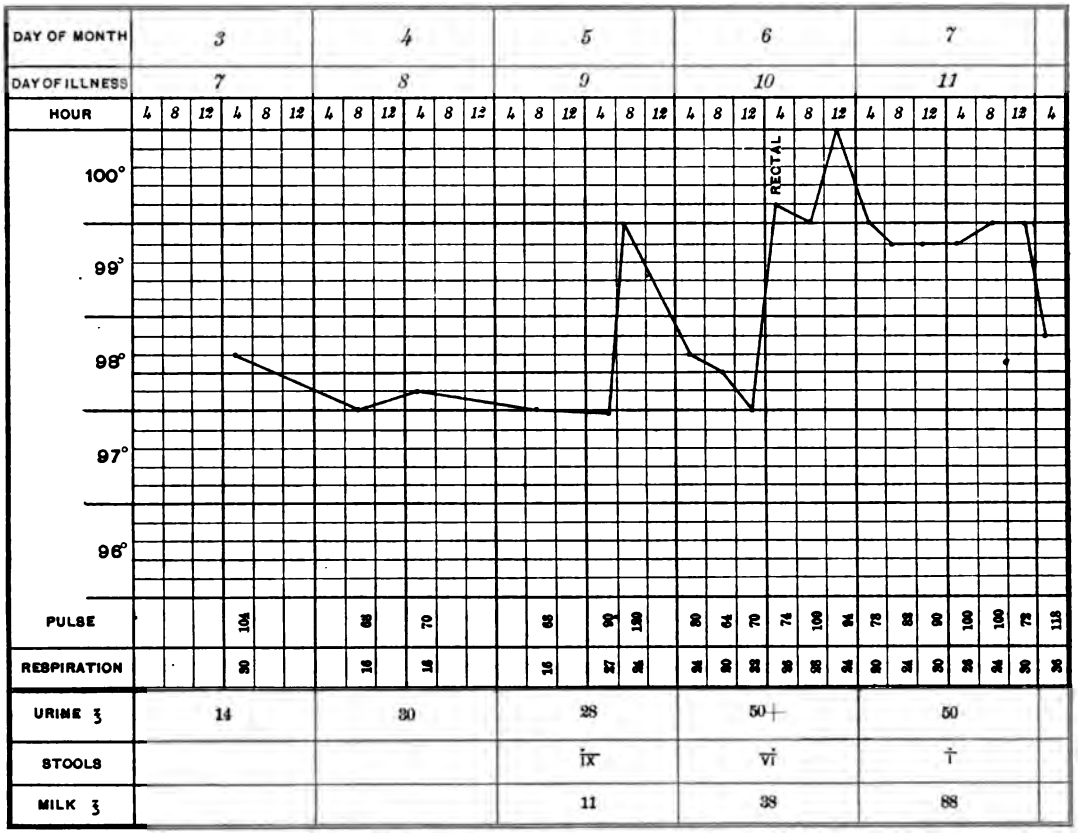
October 4th.—Patient troubled with pain in back; unable to take solid food; fluids taken with difficulty. Dry cups to spine. Gave fluid extract of ergot, one-half drachm, four times a day. Urine, specific gravity, 1034; acid; albumin, a trace; no sugar; microscopic examination negative.

October 5th.—Pain in back and legs. Patient vomits. Has considerable dyspnœa. Allow milk diet. Dysphagia marked. Stop ergot. Gave sulphate of strychnine, one sixtieth grain, every four hours. Eyes examined by Dr. Bull. Simple hyperæmia of retina.

October 6th.—Headache and vomiting. Unable to swallow fluids. ℞. Nutritive enema oz. vj. every four hours. Severe attack of dyspnœa, patient becoming cyanosed. Involuntary movement of bowels. Stop enemata. Patient fed from this time by stomach-tube. Pulse good force and regular all day, but late this afternoon began to be slightly irregular.

October 7th. — Condition apparently the same. Rested quietly all day. Complained of pain when moved in bed, also some pain when muscles were grasped. Bowels moved once voluntarily, also passed urine voluntarily. Respiration has been very shallow all day. During the evening the pulse began to intermit, respiration became more shallow and irregular.

October 8th.—Respiration and pulse both failed rapidly in spite of stimulation and patient died about 6 A.M., apparently rather a cardiac than a respiratory death.



Autopsy. — Frame large; muscle good; adipose moderate. Diaphragm: Right side, fourth space; left side, fifth rib. Heart: Normal; weight, 12 ounces. Lungs: Left, posterior portion congested, muco-pus in bronchi, weight 1 pound 5 ounces; right, same. Liver, congested. Spleen, normal. Kidney: Left ureter and adrenal normal—8 ounces; capsule slightly adherent; surface smooth; congested on section; cortex congested; right kidney, 7½ ounces; left kidney the same. Pancreas, normal. Bladder and prostate, normal. Brain, some congestion. Spinal cord, blood-vessels appear rather congested; no softening. The dura mater is normal; the pia mater is congested. The convolutions of the cerebral hemispheres are flattened, most markedly over the right parietal lobe, where there is some bulging, and where the tissues are softened to the touch. There is also some bulging of the central portion of the mesial surface of the right hemisphere.

On section of the right parietal lobe, there is found a tumor mass, 2½ inches in diameter, extending from one-half inch beneath the upper surface down into the corpus callosum, and involving to a slight extent the left half of this body and the right fornix. It also crosses to the floor of the right lateral ventricle, and involves the tail of the caudate nucleus and the superficial part of the internal nucleus. It extends forward to the fissure of Rolando, and backward to within one inch of the parieto-occipital fissure. It is mostly of a pinkish color, but some parts are brown, and some are dark red. In consistence, the posterior central portion is much firmer than normal brain-tissue, but most of the peripheral portions are soft, and in parts there is a striking richness in serum.

On microscopical examination of stained sections the tumor is found to be a spindle-cell sarcoma. There is also much hemorrhage, and there are necrotic patches.

Sections have been made from some twenty portions of the spinal cord, also the cauda equina at various levels, and from several nerve-trunks. Most of these sections have been stained by three different methods — Weigert's hæmatoxylin, Delafield's hæmatoxylin, and Van Gieson's picro-fuchsin; and they have been carefully examined under the microscope. No lesion, inflammatory, degenerative, or of any other nature, has been detected. The nerve terminations in the muscles were not examined.

Dr. C. L. Dana thought the case read like a typical one of Landry's paralysis, and the only criticism which could be made, related to what appeared to be an incomplete post-mortem examination. In such cases a bacteriological examination of the nervous system seemed to him of first importance, the autopsical record being quite incomplete without it. Furthermore, the microscopical examination of the nervous tissue was quite incomplete unless the tissues had been hardened in alcohol without any touch of bichromate solution, and had been submitted to methyl-blue stain, etc., by which we were able to detect changes in the nerve-cells which could not be done by the methods mentioned, as he remembered them in the record of the case.

Dr. Robinson regretted that Dr. Thacher was not present to reply to the criticisms made.

Dr. Dana added that it might seem ungrateful to make criticisms in the absence of Dr. Thacher, but he wished to impress the fact that this disease was one the cause of which could not be discovered, it seemed, by the methods of examination applied ordinarily; that it was probably a disease of infectious origin in which the nervous system was overwhelmed by the poison, like in some cases of paralytic rabies.

Dr. Robinson remarked that ergot was given because it had been used in the form of ergotine in one case by Gowers.

Case of Brain Tumor.—Dr. Robinson presented a specimen with the following history:

W. H. De G——, aged thirty-one; male; clerk, New York. Family history: One brother died of phthisis. Personal history: Patient suffered from an attack of scarlatina when a child. Thirteen years ago had trouble with both ears. Moderate alcoholic habit. Denies venereal. Otherwise negative.

Present trouble began three months ago, when he noticed that his left leg was weak, and foot showed a tendency to turn in and interfere with the other leg in walking. This has gradually increased, and now he does not have full control of leg or of fingers on his left side. He had headaches which are very severe, and perhaps most severe through the temples, but the site of the pain is not at all constant; pain in back of neck is also very severe. The headaches, when especially severe, at times cause nausea. Has had vomiting nearly every day since first onset of paralysis and headaches. Vomiting is projectile, and often relieves the headache. He has also suffered from dizziness, associated with dimming of sight and pain in eyeballs. All of these symptoms have gradually increased in severity up to time of admission. Bowels are constipated. Appetite poor. Chief complaint, pain in the head. On admission physical examination showed the patient to be well nourished; color good; heart, lungs, liver, spleen, abdomen, and superficial glands apparently normal; tongue slightly coated; pulse regular, soft, fair, force about 90; kneejerk markedly exaggerated on left side, slightly so on right side; plantar and cremasteric reflexes present; ankle clonus on left side; sensation apparently normal; left leg cooler to touch than right; elbow and wrist reflexes present, more marked on left side; fine movements of fingers good. Power in both arms good. Flattening of right side of face, slight ptosis of left eyelid. Urine, specific gravity, 1029; no albumin; no sugar; microscopic examination negative.

Examination of eyes a short time after admission showed that right eye had suffered from a mild degree of neuro-retinitis. Left eye negative. In consensual movements of upper lids, right acts slightly; left acts better. On walking toes of left foot drop; gait is slightly spastic; swings left leg from hip and staggers a little to the left. Weight, 148 pounds. During first week patient was able to get up each day and walk around a little; had almost constant headache. Vomited occasionally.

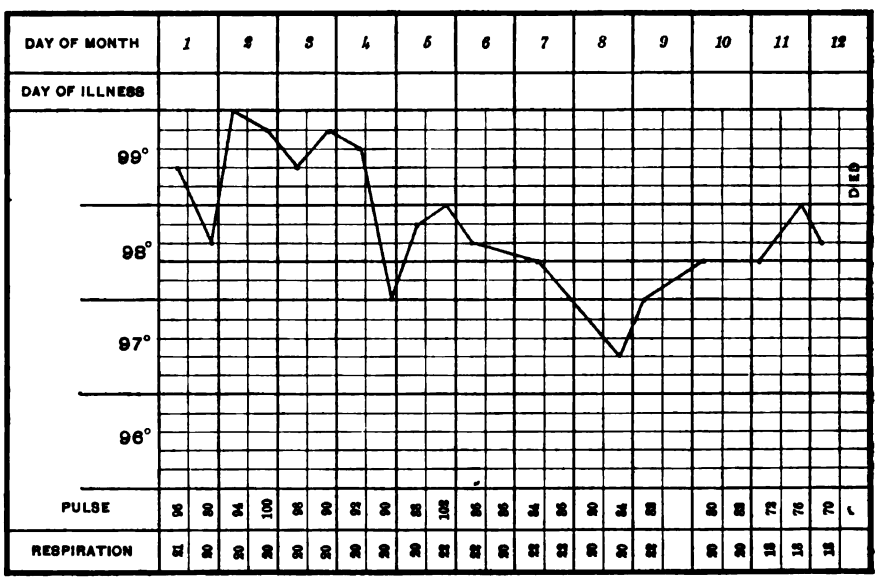
January 23d.—Put on inunctions of hydrarg. and potas. iodid. internally. Weight, 141 pounds. During a dizzy spell fell out of chair to-day. Delirious during the night.

January 25th.—Right side of face decidedly flatter; power in left arm and leg is much diminished; movements of fingers on left hand are very imperfect and feeble. Pulse slow and irregular. Slightly diminished sensation over left side of body.

January 27th.—Pain in head; vomiting and delirium continue. Power in left arm and leg is almost nil. Slight nystagmus noted. Sensation over whole left side of face, trunk, and extremities is still further diminished.

January 28th.—Eyes examined. Neuro-retinitis in right eye has increased. Left eye has a few spots of retinal exudation. Wildly delirious at times, stupid and drowsy at others. Urine and fæces are now passed involuntarily. Headache and vomiting continue.

February 1st.—Still getting iodide and inunctions. Headache is constant. At times is quite bright, at others delirious or in a stupor.



February 4th.—Growing weaker and more stupid. Stopped iodide and mercury.

February 6th.—Paralysis of right side of face seems less marked. Patient has difficulty in swallowing.

February 7th.—Comatose all day.

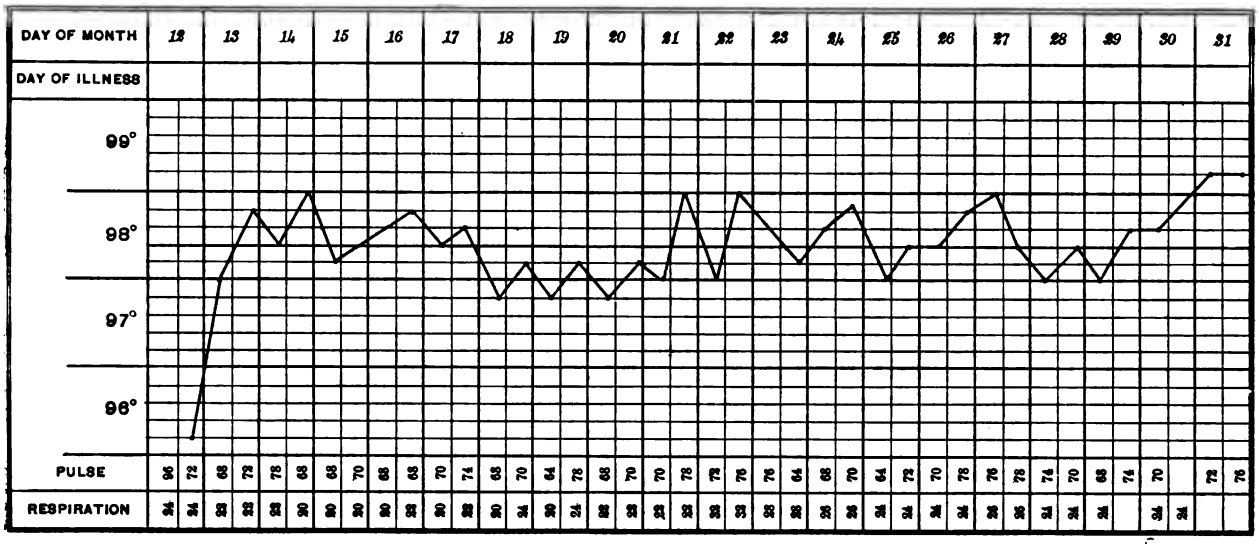
February 10th.—Anæsthesia seems less marked than formerly. Mental condition is better. Slight movements of left fingers possible; otherwise left extremities are completely paralyzed.

February 11th.—Ptosis in left eye more marked.

Paralysis of left side of face now, while right side seems to have recovered.

February 12th.—Stupor all day. Right pupil larger. Respiration labored; pulse irregular.

February 13th.—Died.



Autopsy.—Drain: Dura normal; pia congested. Convolutions of cerebral hemispheres flattened most markedly over right frontal lobe, where there is a slight bulging and where tissues are slightly softened to the touch. Also some bulging of mesial part of right hemisphere. On section of right parietal lobe there is found a tumor mass 2½ inches in diameter, extending ½ inch from convex surface down into corpus callosum, and from fissure of Rolando in front to within one inch of parieto-occipito fissure behind. It is mostly of a pinkish color. Some parts are brownish and some parts dark red. Central portion firmer than brain tissue. Most of peripheral parts are soft and in places rich in serum. Central portion of corpus callosum and of right fornix are invaded. Rest of organs about normal.

Tumor of the Cerebellum.—Dr. Charles L. Dana, in presenting a specimen of cerebellar tumor, said he was indebted for it to the scientific zeal of his house physician, Dr. Russell, who had followed the case after the patient left the hospital and obtained an autopsy. The patient was a man forty-two years of age, with a good family history and a good personal history up to about a year and a half ago, when the present symptoms came on. The first symptom which he noticed was pain in the occiput. After this had continued for some weeks, there came on some disturbance of gait, stumbling, and awkwardness. These were the two principal symptoms for a year. He entered Dr. Dana's service in Bellevue in November, 1894. He was then able to walk with difficulty; the gait was slow, straddling, and somewhat titubating, and there was a slight tendency to fall toward the right. The legs were weak, both knee reflexes were exaggerated. There was no spasmodic trouble. The arms were free from any trouble whatever. No paralysis of the facial muscles, no anæsthesia. The only sensory symptoms from which he suffered were intense pains in the head, especially in the occiput. There was neuritis in both eyes. He swallowed with difficulty, soon began to vomit some, the speech was not very perfect. On the ground of persistent occipital pain, peculiarities of gait, vomiting, optic neuritis, vertigo, and forced movement, Dr. Dana made a diagnosis of tumor of the cerebellum. The patient suffered so much from pain that he had him transferred to the surgical ward, and suggested that at least an exploratory operation be made over the cerebellum, taking out a piece of bone to see if it would relieve pain, and at the same time feeling for a tumor and possibly removing it. But the patient improved so much in the surgical ward that the surgeons decided not to operate, and he was returned to Dr. Dana's service, where he continued to improve, and finally was able to walk about a little and left the hospital. He had simply been taking iodide of potash Dr. Russell followed him up, the symptoms recurred, no new ones developed, there was great nausea, vomiting, prostration, and difficulty in swallowing, and finally death.

The autopsy revealed a tumor an inch and a half in diameter, of rounded form, almost entirely encapsulated, attached to the anterior portion of the right lobe of the cerebellum, pressing upon the right lateral surface of the medulla and to some extent upon the pons; also pressing upon the right cerebellar lobe to which it was attached, somewhat upon the median lobe, but there could not have been much pressure directly upon the medullary centres or cranial nerves in front of the medulla. Microscopical examination showed that it was a spindle-cell sarcoma.

Dr. Dana said the case was especially interesting to him as he believed it was one in which the cerebellar tumor could have been successfully removed. Examination of the specimen might give the surgeons a little encouragement in attacking these cases.

Dr. Abbe inquired whether the tumor had very vascular attachments.

Dr. Russell replied that it was a pretty vascular tumor, but it had no large vascular attachments.

Dr. Polk inquired what had been the mortality from operations for cerebellar tumors.

Dr. Dana, one hundred per cent., I presume.

Dr. Bryant believed Starr's figures were, of eighteen operated upon, one recovered.

Jewish Physicians to the Popes.—According to a writer in the *Rivista de Ciencias Médicas*, the records contained in the archives of the Vatican show that many of the Popes employed Jewish physicians, and in return for their services protected them in the exercise of their ancestral religion. Angelo de Manuele, a Jew, was appointed physician to Boniface IX. and the conclave of cardinals, in 1392. Julius II. had for his doctor a Spanish rabbi. The Popes of the Renaissance, Leo X., Clement VII., Paul III., all employed Jews.

The Passing of Red Hair.—A writer in *The Lancet* says that he has noticed, during several years' experience in civil service examinations, that a diminishing number of the candidates have red hair, and he thinks this color of hair is becoming quite rare.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL SURGERY.

Stated Meeting, April 8, 1895.

B. FARQUHAR CURTIS, M.D., CHAIRMAN.

Plastic Operation on the Nose after Excision for Sarcoma.—The Chairman, DR. CURTIS, presented an aged man, on whom he had operated for what appeared clinically like epithelioma of the face and nose, but microscopical examination pointed to sarcoma. The tumor was the size of a quarter of a dollar, flat, elevated slightly above the surrounding surface, and during its removal it was necessary to take away the entire ala of the nose on that side. A flap was cut from the cheek, somewhat larger than the gap in the nose, leaving a pedicle attached at the corner of the ala, was sutured in position, and uniting it formed a very fair-looking nose. The great difficulty in making a new ala to the nose ordinarily was the tendency for the flap to lie flat against the septum, but in this case it had stood out sufficiently to allow a little for shrinkage. The operation had been done less than two weeks ago and healing was practically complete.

The Operative Treatment of Bending of the Neck of the Femur.—The Secretary, DR. ROYAL WHITMAN, presented the youth whom he had shown at a former meeting with bending downward of the neck of both femora and also a twisting backward, so that the greatest amount of separation of the legs obtainable was three inches and a half. In sitting he had been compelled to cross the legs. Dr. Whitman presented the patient a second time, in illustration of the result of osteotomy for the correction of the deformity. The bone was placed in a position at the completion of the operation corresponding to the normal position of the foot. The idea at first was to correct the deformity of both limbs, but it was decided to first see what would be the result on one side. It had been highly satisfactory, the foot now being in normal position, flexion normal, gait easy. Dr. Whitman said the method was far superior to that commonly resorted to on the continent, excision of the hip. He mentioned the fact that cases of bending of the neck of the femur were almost invariably mistaken for hip disease.

Fibro-Cystic Tumor of the Cord (?) Complicating Inguinal Hernia.—DR. W. B. COLEY, presented a youth, aged eighteen, on whom he had operated for supposed irreducible, inflamed, inguinal hernia. There was a small tumor between the testis and external ring. This tumor was found to have thick walls of fibrous nature with small cystic cavity. He could not say whether it was attached more to the cord or to the lower end of the hernial sac. There was no sign of malignancy. The case also illustrated how little the testis was affected by an operation involving transplanting the cord.

Cases of Sarcoma Cured by Toxins of Erysipelas and Bacillus Prodigiosus.—Dr. Coley also presented again three patients, cured of sarcoma by inoculation with the toxins of erysipelas and bacillus prodigiosus, whom he had shown at other societies and whose histories had been published in the MEDICAL RECORD. One was a man who had had inoperable sarcoma of the back and groin, another a younger man with inoperable sarcoma of the abdomen, the third a woman who had had inoperable sarcoma of the back and shoulder. In none had there been any sign of recurrence, and the health had been perfect.

The Treatment of "Saddle Nose" with Celluloid Support.—DR. R. F. WEIR presented a woman and photographs, showing the result of the treatment of "saddle nose," a subject which had occupied the attention of surgeons interested in deformities a long time. He had once thought of making it somewhat a specialty. The first material which he had used for a support was gutta percha, but it proved unsatisfactory because it softened underneath the skin and was not always tolerated. Having been experimenting with covering holes in the skull with celluloid, an idea which he had gotten from the Germans, and finding the material borne well there, he had then tried it as a support for the nose. The result had been quite satisfactory. The boat-shaped piece of celluloid was best introduced through an incision into the skin at the side of the nose. Only a very slight scar was left. He had tried introducing it from within the nostril, but twice he had been compelled to remove it, finding that there was not sufficient bed beneath it and trouble arose from gravity pressure. Photographs were shown of another case in which, through an incision in the cartilage within the nose, bone was chiselled out and the contour of the nose restored. But a case which illustrated better than any other what liberties could be taken with this organ, was that of a man of exaggerated oriental features relating to both nose and lips, which were very prominent. Through an incision in the nostril he chiselled away part of the bone, removed a V-shaped section of the cartilage, later made a V-shaped incision inside of the mouth and brought down the lip. The man's expression was changed very much, so that his friends were greatly astonished. He told them that he had been out riding one day, had fallen from his horse, and this was the result.

The Result of Operation for Anchylosis of the Elbow.—Dr. Weir next presented a lad who had some weeks before he saw him sustained complete outward dislocation at the elbow, resulting in anchylosis at an angle of 160°. The main obstacle to reduction of the dislocation was found in a strip of periosteum turned up from the coronoid process which had undergone such thickening and hardening as to cause the parts to be extremely rigid; also in a similar piece of periosteum on the anterior surface of the humerus. With some little difficulty these were cut away, the joint was put in proper relation, and there had been a very satisfactory result from a troublesome case.

Compound Comminuted Fracture of the Patella.—DR. E. M. COX presented a boy who had been brought to Roosevelt Hospital soon after falling to the ground from a height of four stories. There was fracture of the right femur and of both bones of the other leg, but the point of chief interest related to the right patella, which had sustained a compound comminuted fracture, the number of fragments being at least seven or eight, some of them very small. He opened the joint, cleansed it of clots, stopped bleeding, removed the smallest fragments of the patella, drilled the larger ones and united them with catgut, and also united with them the small portion of bone to which the ligamentum patella was attached. The only interruption with healing was necrosis of a small fragment, which finally came away and the sinus closed. The result has been perfect function.

Foreign Body in the Knee-joint.—DR. WEIR presented a man on whom he had operated for foreign body, cartilaginous in character, in the right knee-joint, to the right of the patella, where it was adherent, but free enough to make moderate excursion and cause trouble. It was tied and cut away, but in closing the wound he adopted a method which he would not recommend, namely, first sewing up the serous membrane, then the fibrous tissue, then the skin, not leaving an opening for drainage. In this case the result had been entirely satisfactory, but in a later one the method had caused trouble, and he would advise in its stead the old plan of leaving an opening for the escape of any effusion.

Undescended Testis.—DR. JOHN B. WALKER read a paper on this subject. The testes appeared at the internal ring about the seventh month of intra-uterine life, and reached the normal position about the eighth month, the left testicle preceding the right from three to four weeks. But in a considerable number of cases the nor-

mal descent of the organ did not occur. This might be due to one of several causes—to adhesions formed during fœtal life, to lack of function of the gubernaculum, to contraction of the ring, later to pressure of a misapplied truss.

Harm Resulting from Retention.—It had been shown in animals that the testis must descend in order to perform its function of secreting spermatozoa. A man or animal in whom both testes were retained was impotent. The testis might be retained within the abdomen, in the canal, or just outside, but the most common place was in the canal. Photographs of cases were shown. The descended testicle, usually the left one, was, as a rule, four or five times larger than the retained one. The pressure on the testis retained in the canal was apt to cause it to undergo degeneration and to take on sarcomatous change. The organ was especially susceptible to inflammatory process, and there had been numerous cases of orchitis under such conditions. The best theory was, not that the organ was from the beginning imperfectly formed or developed, but that it had not reached full development, and that if it were brought down before the age of puberty it would develop into a normal testicle. After the first year it rarely came down unless operated upon or was carried down by a hernia. In infants we found undescended testis without hernia, but in adults there was usually hernia. Out of 65 cases of undescended testis in his list 55 were attended by hernia.

How to bring the Testis Down.—The simplest method to bring the undescended testis down was by manipulation, but this was not sufficient for a cure, and had to be followed by an operation. The manipulation should be begun early in infancy. An operation should not be done before the age of five, but it should be done before puberty, say at eight or ten years of age. The essential part was to free the bands. All tissues should be divided except the vas. In some cases where it seemed too short the epididymis could be dissected away from the testis so that the testis could be inverted and allowed to go down an inch or two farther. To prevent the testis from rising, some operators had fastened it by suture to the scrotum, and to prevent the scrotum from becoming invaginated had fastened it by suture to the skin of the thigh, or a wire mattress.

In illustration of the benefit of operation, Dr. Walker had collected about sixty-six cases operated upon before the age of puberty, in sixty of which the testis had gone on to grow to about the normal size.

The Chairman, Dr. Curtis, said he had operated on a case of hernia and undescended testis ten days ago. By closing the canal after the Basini method it did not seem so necessary to sew the testis to the scrotum. Of course one could not get much support from the scrotum. He thought the Basini method would help very much in dealing with cases of undescended testis with hernia.

Twisting of the Cord.—Dr. Lilienthal mentioned an accident to which Dr. Vanderpoel had recently called attention, namely, twisting of the cord, which was more likely to take place where the cord was short, as it was where the testis was retained.

Dr. W. B. De Garmo mentioned the fact that stallions during violent exercise carried the testes in the abdomen. Undescended testis was sometimes mistaken for hernia, and he recalled an instance where a fitter of trusses had set up in a man an orchitis when there was no hernia, but retention in the canal of both testes, which were of good size. He had seen some very satisfactory results from the use of a truss alone, while in others the testis had made scarcely any downward progress at the end of ten or fifteen years. Still, he had the persons continue the use of the truss because he believed the canal was weak in these cases and hernia was likely to occur. He had seen descent take place at almost every age up to the fifty-ninth year. One man, aged fifty-nine, had carried one testis in the abdomen all this time and then it descended. He had seen some cases in which manipulation had been useful. He believed the author had not stated whether he opened the inguinal canal. It was necessary, in order to bring the testis into normal position. These people were frequently subject to violent pains, due apparently to contraction of involuntary muscular fibres pressing the testis against the ring. A truss had given relief, he hardly knew why.

Dr. De Garmo said that Mr. Fenwick had operated for hernia in a man with undescended right testicle, leaving the testicle; the left testicle was atrophied. The man had been married but had no children. Shortly after the operation he married again and a child was born.

Opposed to Operation.—Dr. W. B. Coley had about two years and a half ago operated upon three cases of undescended testis, anchoring the organ in the scrotum in two by wire frame, in one stripping off epididymis in order to gain a little in distance. The patients had been kept under observation and he could say that in all there had been greater atrophy than would have taken place had the testis been left in the canal. He did not think the testis was improved upon at all by bringing it down and anchoring it in the scrotum. In the vast majority of cases, in children, at least, operation was not at all necessary. In adults, where there was much larger hernia, acting as a serious complication, he thought an operation should be performed. It was very seldom necessary in such cases to remove the testis, as had frequently been done. A good surgeon had told him that he had recently operated for hernia, found a testis, removed it, tied it carefully with three ligatures, yet hemorrhage occurred and the patient died of hemorrhage, shock, and peritonitis. There was, then, some danger in removing the testis. He had seen a man who had sustained injury of one testis, which was accordingly removed; the other was undescended, yet he became the father of three children.

Dr. T. H. Manley said that gynecologists did not hesitate to remove the ovaries, not only when they were diseased, but even when disease was only suspected. In undescended testicle in man, the organ was not even developed; it was a foreign body, why not remove it? Some of the worst cases of strangulated hernia which he had seen had been complicated by undescended, undeveloped testicle, and under such circumstances he had removed the organ. He could not understand why there should be danger of hemorrhage.

Dr. De Garmo thought also that in operating for hernia and a small testicle was found which could not be brought well outside of the external ring, it ought to be removed. It was true death had resulted from removing the testis, but the fault must have rested with the operation. To retain such a testicle was purely a matter of sentiment.

Dr. Walker said he had stated that all the tissues should be divided except the vas. A case had been reported in which the cremaster had not been divided; the testicle was drawn up against the pubic bone, causing great pain, and relief followed subsequent division of the cremaster. It had been observed that where the operation was done before puberty, in bringing the testicle into normal position, it went on to develop.

Demonstration of a Method of Preparing Catgut.—Dr. R. H. Cunningham made the demonstration. In some experiments he had determined to try hardening catgut in formalin, an agent which had been shown to possess great potency as a germicide. For the hands it had to be employed in very weak solution, else a peculiar necrosis of the skin would occur, a necrosis not accompanied by signs of inflammation. Formalin was capable of uniting with gelatin in forming a film. Take commercial catgut, wound not too tightly on a glass spool, soak it two days in a mixture of absolute alcohol and ether, equal parts, and thoroughly remove the grease. Then immerse in alcohol a few moments. Then remove to a jar with a tight cover, in which

there were equal parts of formalin, alcohol, and boiled distilled water, sufficient to submerge the catgut. After two days (a few hours would probably do) the catgut could be removed, the formalin washed out, the catgut soaked several times in fresh alcohol, or, what he preferred, boiled in normal saline solution half an hour or more. Then it was transferred to alcohol for preservation until used.

Catgut so treated was found to have undergone a peculiar change, so that it did not become stiff and brittle, and even on boiling in water several hours it did not lose its strength. The fact that it could be boiled without destroying it was very important for a number of reasons: 1. It facilitated the complete removal of the irritating formalin. 2. A more aseptic state was produced. 3. It could be again boiled in saline solution just before using it, thus avoiding bringing alcohol, oil of juniper, or other preservatives, in contact with the delicate tissues. Other animal substances, such as decalcified bone, could be thus prepared also. Dr. Cunningham had had experience with catgut thus treated only in experiments on animals, and the results had been quite satisfactory, even on the sensitive brain.

The Chairman and others present thought this method of preparing catgut would prove of the greatest value.

Final Result of Intestinal Anastomosis by Suture.—Dr. P. R. Bolton presented a specimen removed at autopsy from the case of the man related by Dr. Weir some months ago. Dr. Weir had made intestinal anastomosis by suture between the ileum and sigmoid flexure, establishing an opening 7.5 ctm. in length. There had been no contraction. Silk sutures were used, but all had disappeared.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE ROYAL COMMISSION ON THE AGED POOR—PARASITES OF MALIGNANT DISEASE—PRESIDENCY OF THE COLLEGE OF SURGEONS—THE PUBLIC HEALTH—INFLUENZA—DIPTHERIA.

London, April 5, 1895.

The Report of the Royal Commission on the Aged Poor has been looked for with no little interest by various sections of society, and to medical men the questions involved are always present—like the poor themselves. The expectations formed are largely doomed to disappointment. Of course there are not a few who foresaw that such an inquiry could result in no definite conclusions, and some who had not so much perspicacity are assuming the airs of those who had. If no definite conclusion on which legislation can be based is offered, the commission has certainly stimulated public interest in the great social problem involved. We have now the report of the majority, but with it another, that of the minority, of the commissioners. Even to the former, which we may regard perhaps as the official statement, several of the signatories set forth in addenda the points on which they differ from their co-signatories. Such divergence of view illustrates the extreme difficulty of the problems involved, and should tend to raise serious discussion with a view to definite results, and independent of all political party. It is a sad state of society that three out of seven of the industrial classes who reach the age of sixty-five should be driven to depend on the Poor Law. This glaring fact has given rise to various schemes of insurance and State aid. The majority of the commission say no such scheme is free from grave dangers, while the minority declare that this is only destructive criticism, and that a constructive policy should have been attempted.

On Tuesday last Mr. Jackson Clarke returned to the question of protozoa anent a lobulated growth of the breast, the histology of which he carefully described. He slightly modified his former conclusions, which I have fully reported, in consequence of appearances that pointed to the bodies he described as perhaps suctoria rather than protozoa, but this he left for biologists to decide. He also said the parasites of vaccinia and variola were identical with some of the phases seen in the present sarcoma, and he referred to the question of molluscum parasites. Mr. Shattock and Dr. Kanthack both joined issue with Mr. Clarke. The former proposed that the specimens should be submitted to the Morbid Growths Committee to test the accuracy of the facts and observations recorded. The latter considered the appearances presented were those of degeneration products. Mr. Clarke replied that he would submit his specimens to the Morbid Growths Committee on condition that they publish the photographs he supplied with their report. He was not satisfied with the treatment of his specimens on former occasions by that committee.

In consequence of the death of Mr. Hulke, Mr. Christopher Heath has been chosen by the Council of the Royal College of Surgeons to be president for the remainder of the collegiate year which closes on July 11th. Mr. Heath is a strong man, and expresses his views with force. If he lacks any qualification for such an office it is the degree of *savoir faire* which never irritates opponents. He has several times spoken out about abuses in a manner which shows the honor of the college will be safe in his hands.

Influenza is still declining, though there were 116 deaths from it last week. Still that figure is a decline on the prior week of more than 100. So also the deaths referred to diseases of the respiratory organs have again fallen, but are still 48 above the corrected average. The fall is, however, marked from 740 to 497. The epidemic is also on the wane in the provinces, but in some towns the death-rate continues abnormally high—in one town 42.4 per 1,000. Although in practice one now sees comparatively few fresh cases, there is a heavy crop of sequelæ.

The mortality from diphtheria has again risen. The deaths, which had declined to 24 the previous week, rose again last week to 31, which is 6 above our corrected average. All the 31 were under twenty years old. The numbers, however, are less this year than last, and this epidemic is generally considered milder than the preceding one. If we take the returns of the last three months we find the mortality 1,740, which is between 800 and 900 less than during the same period last year.

DISCUSSION ON NERVOUS SYMPTOMS AND CHANGES IN THE CORD IN CASES OF ANÆMIA.

(From our Special Correspondent.)

London, April 5, 1895.

At the last meeting of the Royal Medical and Chirurgical Society Dr. James Taylor read a paper on "Nervous Symptoms and Morbid Changes in the Spinal Cord in Certain Cases of Profound Anæmia." Lichthein's observations in 1887, and those of his pupil Minnich, were referred to, and showed that in certain cases of pernicious anæmia symptoms of sclerosis in different areas of the cord were present. The actual degeneration found in the cord, chiefly marked in the posterior columns, was described, and also the conditions found in the cord of patients the subjects of pernicious anæmia, but in whom during life no symptoms of cord disease were present. Subsequent observations by Van Noorden, Eisenlohr, Nonne, Bowman, Putnam, Grainger Stewart, and Bullock were mentioned and then Dr. Taylor described two cases observed by himself. The first was that of a woman, aged fifty, admitted to hospital with symptoms of ataxy and in a

condition of considerable anæmia. She gradually became weaker, developed excessive spasticity of the limbs, lost control of the sphincters and died of exhaustion. The cord showed marked degeneration in all areas of the white matter and little or no change in the gray. The second case was that of a man, aged forty-three, admitted with symptoms closely simulating those of locomotor ataxy. He became gradually weaker, retinal and subcutaneous hemorrhages were present, and he died from exhaustion. Similar extensive degeneration was found in the white matter of the cord, the cells in the gray matter being unaltered. Dr. Taylor regarded the association of extreme anæmia and spinal-cord changes as no mere accidental one. The cord changes he regarded as of double origin: 1, sclerosis resulting from small hemorrhages similar to those occurring in the retina in the same disease; and 2, sclerosis is the result of a blood state, and he instanced as analogous the posterior sclerosis found by Williamson in cases of diabetes, and the sclerosis present in the cord in cases of pellagra.

Dr. John Harley said in both of Dr. Taylor's cases the nerve-lesions preceded the anæmia, and in the second case it was only a month before death that anæmia in a marked degree showed itself; so with other recorded cases. From this it appeared that the anæmia was merely the sequel. Did pernicious anæmia induce evidence of spinal-cord disease? In six cases of fatal anæmia which he had himself observed, there was no symptom of spinal disorder, though sprinkled hemorrhages were present in the retina and the serous membranes in all the cases. He therefore concluded that the association was merely accidental and not interdependent.

Dr. Gowers said the lines of degeneration found in these cases in the posterior column, or postero-median column, or in the lateral or anterior pyramidal tract, resembled in strict localization the lines of degeneration seen in tabes. In tabes there was a loss of the nutritional influence of the nerve-cells of the posterior ganglion, and so also in the case of action of all poisons like syphilis, alcohol, arsenic, lead, and possibly post-diphtheritic poison, and the posterior root fibres going from the skin and muscles to the posterior ganglia would also be affected. Those fibres, he repeated, which were under the nutritional influences of the cells of the posterior ganglion were especially susceptible to most poisons, but the fibres of the pyramidal tract were susceptible to only some of these poisons. In all these instances the sclerosis was a secondary overgrowth of tissue revealed by negative staining in the specimens which had been exhibited, or they could be revealed by positive staining with carmine. That there must be a toxic agent at work must be admitted, but whether the same toxic agent was the cause of the pernicious anæmia it was not possible to say. In pernicious anæmia there was found structural change in the blood-forming organs, such as the marrow and the spleen. Could such changes occur without causing also a profound change in the chemical processes of such blood-making organs? It should be remembered in this connection that the ferment from the diphtheria-organisms had been shown to transform the proteid material of the spleen into a poison which acted upon nervous tissues, and among other effects produced symptoms much like those of pernicious anæmia, only more acute. With such a perversion of the process of formation of the blood-corpuscles he maintained there would be perversion of the chemical constitution of the albuminous substances of the blood, with the result that a toxic agent would be produced capable of acting on the nervous system in the special way characteristic of such toxic agents. In this way a side-light was thrown on these affections—on the way in which the sufferer only rose to fall again. Whenever the toxic agent accumulated, vomiting and diarrhœa occurred and with it prostration, which ultimately proved fatal.

Dr. W. Hunter said he agreed with Dr. Gowers that a toxic agent played a considerable part in the production of pernicious anæmia and thought this agent was due to the absorption of poison of a specific nature from the intestinal tract. From the cases related it was not clear that the relation between the anæmia and the cord changes was a close one, for the cord changes appeared to be antecedent to the anæmia, and in one of the cases the evidence that it was really one of pernicious anæmia was not conclusive. The degenerative changes in the nervous system might either be due to some toxic changes in the blood or to hemorrhages. He favored the view of the lesions being hemorrhagic in origin, because in cases of pernicious anæmia these changes were few and far between, and recovery from the lesions was good.

Dr. Buzzard doubted whether the anæmia could be a cause of cord changes. In cases of ordinary chloro-anæmia functional troubles referable to the spinal cord were not uncommon, and disappeared when the anæmia passed away; in other words, they were temporary and functional. He mentioned cases in which grave nervous symptoms rapidly passed off under treatment.

Dr. Mott mentioned a case of pernicious anæmia in which the blood corpuscles were reduced to four hundred thousand per cubic millimetre; the knee-jerks were increased, but there were no signs of spinal-cord degeneration. At the necropsy there was found fatty degeneration of the pyramidal cells of the cerebral cortex; possibly later there would have been changes in the crossed pyramidal tracts.

Dr. Bowman said he had examined five cases of pernicious anæmia, and in none of them was affection of the nervous system noted as being present during life. He examined the spinal cords of three of these cases, but no degeneration was found to be present either in the cord itself or in the posterior nerve-roots, though Minnich found changes in the cord in five cases out of twelve in which there had been no nerve-symptoms.

Dr. Ormerod said neither pernicious anæmia nor the form of spinal-cord disease described was so common as to warrant the belief that the association between them was a mere chance one. Their symmetry of the specimens was against the idea of their being due to hemorrhage. He examined a case under the care of Dr. Church in which there was a lesion like that shown, but in that case no anæmia was present. There were very few cases of pernicious anæmia which were not treated with arsenic, and it had been shown that arsenic itself might produce similar lesions.

Dr. Taylor, in reply, said that in one recorded case the knee-jerk was at first exaggerated, then it disappeared, and then came back again. The cases were too numerous to be explained by coincidence merely.

Pernicious anæmia he thought was at present an indistinct entity, and so he described his cases as profound anæmia, as one of Dr. Putnam's cases was called.

SMALL-POX WITHOUT KNOWN EXPOSURE.—A VOICE FROM INDIA.

To the Editor of the Medical Record.

Sir: As I would like some light thrown on incidental questions arising from the following history I trust this letter will merit insertion in an early issue of your journal. Though I am no advocate for the "coddling system," still no man can be more careful of his children than I am of mine. In January of this year my girl, aged six, took measles and had barely pulled through, when her brother, aged two years, was down with the same thing. How were the measles introduced? The drains, rooms, and compound of my house are kept scrupulously clean, and except in company with their mother or myself the children were not allowed outside my gates. I was not treating any case of measles

nor did anyone visiting me live in or come from an infected area.

During the children's illness, my wife (nigh two months *enceinte* and six times re-vaccinated) nursed the little ones, never leaving them for a minute nor coming out of their room, and declining to receive those of her lady friends who called on her. Three days after my son was convalescent, but still kept inside the room, the mother complained of severe lumbar and uterine pains with a slight discharge of blood, but as there was no rise of temperature threatening abortion, the result of mental anxiety and physical overfatigue was suspected and guarded against. The following morning pains had disappeared, and the temperature fell to 97.6° F., but at eleven A.M. it suddenly rose to 102.4° F., and by evening ascended to 105.8° F., accompanied by delirium. The next day's temperature averaged 104° F., fluctuating concertina-wise from 102° F. to 105. 4° F., and the following day she was covered from scalp to sole of foot with an eruption of confluent small-pox. On the eighth day about 5.5 ounces of partially organized blood-clot came away with a sharp pain which almost immediately ceased—examination was not practicable. Two days later, while in the act of vomiting, she felt a strong uterine pain, and a well-developed two-months' fœtus being expelled, the pains entirely ceased, the os contracted firmly, there was no hemorrhage and the temperature ran up to 103.8° F.; but there was no delirium and no lochia.

On the thirteenth day she had an inordinate thirst, not accounted for by the low temperature (97.2° F.), and regular though slow pulse (68); but toward noon the thermometer showed an increase of two degrees only, the pulse quickened to 118, and there were strong bearing-down and dilating pains, resulting in the discharge of a 8.75 ounces oblong and partially ruptured placenta, and a copious dark colored and high-odored flooding, which latter was controlled by free irrigation with boiled water cooled down to 108° F. She was twenty-four days in bed, during the whole of which time she was exclusively fed on boiled undiluted cow's milk, and with the exception of the belladonna prescribed when threatening abortion was suspected, the only medicine given her was prepared variola lymph, under which, for the last ten days of her illness, her temperature did not rise above 97.4° F. With the exception of a few reddish blotches that are rapidly fading away she is not at all marked, and though in 1886 she was for some time an in-patient at the Calcutta General Hospital for phthisis pulmonalis, her lungs are perfectly sound, and there were no chest complications during or after this attack of small-pox.

What I would like to know are: 1. For what period vaccination protects and at what invervals re-vaccination is necessary. 2. Never having left the room in which she was attending two cases of measles, how did my wife contract small-pox, to the infection of which she was not exposed at any time? 3. In epidemics what originates the nucleus or the first case? 4. Are the microbes of each eruptive disease specific to itself or are they homogeneous and capable of producing each other in the same subject, or appearing in one form in one subject and in another form in another subject exposed to the contagion or infection of the first? 5. What started the measles? 6. In what manner the small-pox manifestation stimulated the uterus to discharge its contents? 7. How the presence is to be accounted for of the partly organized blood-clot which weighed five and a half ounces (*i.e.*, 2,640 grains)? 8. The reason of the abortion taking three distinct stages at long intervals, and with a total cessation of pains and contraction on itself of the os uteri between each stage? 9. The fœtus weighs 175 grains, and the placenta 4,200 grains. They parted company, and for three days the latter (which more or less plays the part of a sponge) remained in utero, but had no cord attached to it when discharged. Did nature ligate the cord by occlusion of the severed extremities of the vessels with subsequent complete shrinkage, and thus prevent bleeding till the placenta came away? I am, Yours, faithfully,

ROGER S. CHEW, M.D., C.M., M.
Late Analyst to the Corporation of Calcutta.
THE SETONNELL LABORATORY, CALCUTTA, March 19, 1895.

COCAINE INJECTIONS IN PLACE OF CASTRATION FOR ENLARGED PROSTATE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I notice an article in the MEDICAL RECORD of April 6th, entitled "Warning Against Castration for Prostatic Enlargement." For many years the difficulty of enlarged prostate has been to me one of considerable importance. Castration is probably the least desirable operation in operative surgery, not because of the difficulties or dangers present in the removal of the testicles but because of the destruction of the virility of the individual concerned.

There is an old saying: "any port in a storm," and while in search for a remedy short of absolute castration I have devised a method that has so far succeeded in two cases. My method is to inject cocaine directly into the testicle twice per week for about two months. There is considerable absorption, spermatozoa cease to be produced in about six weeks; the patient gets immediate relief from the distressing symptoms of prostatitis and enlargement, the gland gradually shrinks to its normal size, and the finale of the case is recovery, with the power of copulation, but absolute cessation of the production of spermatozoa. Is not this better than castration?

S. E. MCCULLY, M.D.

CASTRATION FOR HYPERTROPHIED PROSTATE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Surgery has scarcely claimed the new territory of castration for enlarged prostate, when lo! a number of pessimistic shells are thrown into its camp. But the truth here, as always, must be fought out on neutral ground. We must carefully consider and weigh the import of the non-inflammatory and the inflammatory changes respectively, which the parietes of the bladder may have sustained. In other words, we must have a fair conception of the extent and duration of the vasomotor and the trophic disturbances that have taken place in the viscus. This is of the greatest practical moment in determining the outcome of the trouble. Whether success or failure will attend the removal of the prostatic obstruction, whether the bladder will be enabled to evacuate itself. In urethral obstruction, the capacity of the bladder is, in consequence of its hypertrophied muscular coat, as a rule, diminished. The hydrostatic tension being exerted on the urethra posteriorly to the obstruction dilating the canal until it finally yields so disastrously. The reverse obtains in prostatic obstruction. The capacity of the viscus, notwithstanding the thickening of its muscular walls, is, as a rule, materially increased. High tension exerts itself more on the vesical walls, and there exists, besides the post-prostatic pouch for the accumulation of residual urine, more or less atony of the entire organ, not to mention sacculation and the fatty changes which occur at this time of life. Then, add to these anatomical changes, the factors incident to prolonged inflammation, the extension of the process into the submucous tissue, where infiltration and organization take place, and when in consequence the bladder walls are rendered inflexible and indurated, and the hypertrophied muscular coat is unable to obliterate its cavity. I am citing ancient his-

tory which every pathologist will verify. No wonder that, in these cases, relieving the vesical outlet of the embarrassment by causing atrophy of the prostate or by removing considerable portions of the gland as in prostatectomy, with the additional advantage of rest and drainage, the patient fails to obtain material benefit. But in properly selected cases, and when timely undertaken, the operation has not only made its advent, but, I believe, has come to stay, for a time at least, until we find something better. Men who have symptoms of prostatic obstruction will have very little use for their testicles in the time to come, and they should be impressed with the adage that applies to them, *par excellence*, that "coming events cast their shadows before." They will thus avoid the annoyance, the distress, the misery that inevitably awaits them.

Truly yours,
ALEXANDER W. STEIN, M.D.

VIEWS ON ANTITOXIN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I was very much pleased with the remarks of Dr. Galloway in your issue of March 23d, most probably from the fact that they so closely coincide with my own views with respect to the too premature acceptance of the antitoxin treatment of diphtheria.

About twelve years ago there was an epidemic of diphtheria in a village in the vicinity of Halifax, N. S., and being a practitioner there at the time, I was called upon to attend 117 cases of the disease, out of which number I lost only 7. The treatment invariably used was locally, a solution containing liq. calcis sulphurata, turpentine and glycerine, while internally I used brandy and an emulsion of cod-liver oil with hypophosphites.

The seven cases that died were diphtheritic croup; in those that recovered the disease did not extend beyond the throat and tonsils. I state this fact because I am not advocating any theory or method of treatment, and desire to show that other forms of treatment are attended with as satisfactory results as those obtained by the antitoxin treatment.

I sincerely hope that the serum therapists to whom, in a measure, I strongly incline, or any other therapist, may be able to discover antidotes not only to diphtheria, but to every other fatal disease, and I even go so far as to say I believe such antidotes will some day be found, but I do not think the facts so far shown will warrant us in accepting antitoxin as an absolute antidote to diphtheria any more than Koch's lymph was an antidote to consumption, or Brown-Séquard's elixir was an antidote to old age.

JOHN A. LANIGAN, M.D.

NIAGARA FALLS, N. Y.

TO PREVENT SUBSTITUTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Some of our medical friends have been making vigorous protests of late against "substitution by druggists," and usually in such a way as to indicate their own lack of exact knowledge of the subject. Having "slaved" in pharmacy some ten years prior to attaining the honor of M.D., the subject of "Substitution" is to me a familiar one from both sides.

Allow me therefore to state most emphatically that the crime of substitution is almost an unheard-of thing in the entire line of United States Pharmacopœia preparations, with the rare exception that the pharmacist may use his own or some other make of fluid extract, tincture, or elixir than the particular make specified. For such a substitution there is little or no justification—yet I question if the doctor who will prescribe Smith's, Jones's, Brown's, or some other fellow's elixir, essence, or powder (nearly all of which are strictly proprietary medicines), has so highly honored himself that he is in a position to throw stones at the druggist for yielding to the temptation to dispense "his own" preparation!

Now, some of these proprietary remedies are very fine pharmaceutical products, and a few of them could be named which are of such high quality as to defy imitation or substitution, and a respectable druggist would no more think of substituting in such cases, than he would of dispensing commercial chloroform for Dr. Squibb's preparation.

All of these manufacturers request the doctor to "please specify *our* preparation on your prescriptions," and if he fails to do so he cannot fairly censure the druggist for dispensing his own article.

Every doctor should carefully select one or more reliable pharmacists, and have all his prescriptions filled there as far as possible, thereby insuring a better understanding of what the doctor wants, uniformity of dispensing, and ready accessibility in case of any misunderstanding. The more highly a doctor values his reputation and the paper which bears his signature, the more careful he will be in the selection of a druggist, for the plain truth is that there are quacks and deceivers in pharmacy just as there are in medicine, both equally unprincipled. When the doctor knows his prescription is to be filled in some other city, if he wishes some particular preparation, he should so specify, and the prescription will be dispensed exactly alike in every first-class pharmacy in the United States.

The more thoroughly a patient is convinced of the value of the doctor's advice and prescription, the more careful he will be in selecting a druggist to carefully dispense a remedy.

G. W. WHITFIELD, M.D.

April 13, 1895.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 20, 1895.

	Cases.	Deaths.
Tuberculosis	156	115
Typhoid fever	5	4
Scarlet fever	92	10
Cerebro-spinal meningitis	3	4
Measles	231	31
Diphtheria	222	43

Is Pyrexia a Friend or an Enemy?—The etiology, significance, and treatment of pyrexia is a stock subject of observation and discussion. It comes up again and again with the persistence of a poor relation, yet the opportuneness of its importunity can never be denied, seeing that we are still without a working hypothesis in respect of the causation and significance of fever. Should we, like our forefathers, see in fever a humor akin to a demon, fit only to be combated and exorcised by all and every means in our power, or ought we, as more recent observations would seem to indicate, to view fever in the light of a willing ally against the marauding and ubiquitous bacillus with its train of excrementitial toxins? That is the question, as Shakespeare once observed under slightly different circumstances. If pyrexia did not have some beneficial effects as in some way an obstacle to the bacterial invasion it would not, as was urged by an ingenious but somewhat too hypothetical speaker, have been perpetuated in the animal organism. Most of nature's reactions are purposive, and, as we have failed in our efforts to suppress fever, we may well ask ourselves whether or not the rise of temperature which characterizes all acute specific affections does not, like

abscess formation in response to local irritation, tend to prevent the further elaboration of lethal processes? We know that, as a general rule, pathogenic bacilli can best be cultivated at the normal or a slightly lower temperature. We know, too, that variations of temperature within comparatively narrow limits seriously interfere with their development and proliferation. This fact alone affords matter for reflection. May it not be that the stimulation of the thermogenic centres is one of nature's means of combating the evil genii in the shape of microbes which secrete the poisonous toxins, with the elaboration of which the pyrexial process is so closely associated? Is pyrexia, and, if need be, hyperpyrexia, not an attempt to sterilize the blood and the tissues of the agents that are working havoc therein? In considering the question of the thermometric phenomena associated with the specific fevers, we must, indeed, bear in mind that a certain comparatively high temperature is as natural to a given diseased condition as is a normal temperature in health. A man afflicted with a pneumonia may really be more ill with a low temperature than when he presents the pyrexial phenomena usually associated with that disease. It is obvious on the face of it, that the therapeutical indications in respect of fever are less simple and straightened than they appear at first sight, and these considerations serve to emphasize the difference in the action of the two great classes of antipyretic agents—those which act directly on the thermogenic centre, and those which merely reduce the surface temperature, and prevent the accumulation of heat within the organism. If a rise of temperature really represents an effort on the part of nature to lessen the biological activity of the invading organs, we must be rendering sorry service by diminishing the irritability of the thermogenic centre in response to the stimulus given by the enemy. The result of antipyretic treatment, strictly so-called, tends to support this view. Professional opinion at the present time tends to discount the indiscriminate use of drugs of the antipyrine class for the purpose of reducing temperature. The patient, after the artificially induced fall of temperature, is often worse off than when the fever was in full swing, and grave symptoms often accompany, and may even be said to measure the efficacy, of the antipyretic medication. An exception may, perhaps, be made in favor of drugs of the quinine-salicylic group which have a thermolytic effect in virtue of their bactericidal action. Quinine, for example, is most efficacious in suppressing malarial fever when given some hours before the attack, at a time when the temperature is subnormal. It is, therefore, less a thermolytic than a microbicide. It is hardly necessary to promise that purely clinical observation cannot be implicitly relied upon, for the data which it affords are conflicting, incomplete, and inconclusive. Our forefathers bled for fever, and in so doing they were, possibly unconsciously, acting on strictly logical principles. To withdraw a certain proportion of the microbe-laden blood from the organism is to reduce pro tanto the disease-producing causes, just as in local tuberculosis we seek to minimize the risk of generalization by the ablation of all accessible foci or infection.

Venesection is out of date, and medicinal antipyresis has taken its place, but there are grounds for suspecting that the results are, to put it mildly, not more satisfactory, and public opinion is just now somewhat hostile to this empirical meddling with the action of the vital centres. No such difference prevails in respect of what may be termed the external method of thermolysis—by cold baths, wet packs, and the like. Any evil effects dependent on recourse thereto can easily be avoided or averted by the careful application of common-sense principles. In future, it may well be that true wisdom may consist in treating fever as a valuable friend and ally, rather than as an enemy to be fought at the expense of the organism.—*Medical Press.*

Mental Therapeutics.—The therapeutic influence of credulity raises a not unimportant question in medical practice—namely, how far it is justifiable for the practitioner to go in certain cases in conscious deception of the patient. It may be said that the end to be obtained justifies the adoption of any and every means that can be brought to bear; but the matter has another side to it. A blind belief in the powers of medical art has been transmitted from the days when magic and medicine were almost synonymous terms; and it is questionable whether it is really justifiable to encourage this kind of belief, except in circumstances such as our correspondent describes; and even then it is not certain that another line might not have been followed by success. It is doubtless more difficult often to strengthen the will-power of such an invalid than to yield to her credulity, but there can be no two opinions as to which line of action would be of most value to her mental health.

Medical Life Peers.—Dr. Eduard Albert, Professor of Clinical Surgery, and Dr. Hermann Freiherr von Widerhofer, Professor of Children's Diseases in the University of Vienna, have been created life members of the Austrian House of Lords. The other representatives of medicine in the Austrian Upper House are Dr. Ernst Ludwig, Professor of Medical Chemistry, and Dr. Schneider, both of whom are also members of the Aulic, or Privy, Council. It may be mentioned that the Austrian Herrenhaus is composed of princes of the Imperial family, nobles with the hereditary right to sit, archbishops, and life members nominated by the Emperor.

The Roumanian Faculty of Medicine has refused to allow Madame Sacara Tulbure to compete for the vacant professorship of children's diseases, on the ground that the university is represented in the senate by one of its number elected by the faculty; but women cannot vote, hence Dr. Tulbure could not exercise all her duties if appointed professor; therefore evidently it would be wrong to expose her to the danger of being elected professor. That this danger would arise if she should compete, was shown by the fact that she had already been granted a travelling fellowship by the Roumanian Government because of her brilliant work as a student of medicine.

A Malarial Map of Italy has recently been issued by the Italian Bureau of Statistics. It is based upon the death returns during the years 1890–92. The varying intensity of the disease in different sections is shown by modifications of color. In the three years there were 50,000 deaths from malarial causes, or 54 in 100,000. The worst districts, where the mortality is as high as 8 in 1,000, are in Southwestern Sardinia, Southeastern Sicily, the Pontine marshes, the district at the head of the Gulf of Taranto, and the southeastern slope, from the promontory of Gargano south to the Ionian Sea. Districts where malaria prevails, but not so intensely as to be fatal, are the lower reaches of the Po, Grosseto in Tuscany, the mouth of the Tiber, and the district near Salerno and the temples of Paestum. In Rome itself, malaria has sensibly declined; the deaths in 1881 were 600, in 1892 only 139. The general mortality from this cause in Italy has remained pretty constant; the average is 15 or 18 per 100,000.

Wrisberg's Cartilage.—Professor Bernhardt Fraenkel, of Berlin, has recently pointed out that the little wedge-shaped cartilage in the ary-epiglottic fold, generally known by the name of Wrisberg, was really first described by Morgagni, in his *Adversaria Anatomica*. It was subsequently rediscovered—apparently, quite independently—by the celebrated Dutch anatomist, Peter Camper (1770). Dr. Fraenkel, therefore, thinks it would be well to drop the eponymous designation and call the cartilage simply "cuneiform," as was proposed by Cuvier.

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FURTHER IMPROVEMENTS IN MICROSCOPICAL TECHNIQUE.[1]

BY HENRY G. PIFFARD, A.M., M.D.,

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IN the *New York Medical Journal* for July 16, 1892, I published the description of an electrical illuminator for use with the microscope. The lamp was an incandescent, with cylindric bulb about three inches in length, and furnished with a short, and comparatively thick, carbon filament, supported in position by copper wires.

To bring the lamp to proper incandescence a current of three ampères, with pressure of fifteen volts, is requisite; and under these conditions it emits a light of fifteen candle-power. If the lamp were directly connected with the Edison service current of 120 volts it would be instantly destroyed by the excessive pressure, just as a water-pipe, intended to support a given pressure, would burst if subjected to a much higher one. The means first adopted by me to obviate this inconvenience was the insertion of a proper resistance-lamp in series with the illuminator. The lamps furnished at the beginning were quite satisfactory, but later I found great difficulty in obtaining them of uniform resistance and voltage. This, on the whole, was rather fortunate, as it compelled me to look elsewhere for some other means to effect the same result. This I found in a Carpenter rheostat, which not only answers the purpose in the most satisfactory manner, but possesses certain special advantages in addition. The object of the lamp here described was to obtain critical illumination under the best conditions and with the least inconvenience. (The lamps and rheostat can be obtained from The General Electric Company, New York.)

Microscopical illumination is said to be critical when the minified image of the radiant coincides in plane with the object under examination; in simpler words, when the lamp-flame is focussed on the object. The means most commonly employed to obtain critical illumination by expert microscopists is the use of the narrow edge of a small (half-inch) kerosene flame, such as is furnished by the Beck (English) and Acme (American) and other microscope lamps. The rays from this flame should be parallelized by a suitable convex lens, and then focussed by the concave mirror (without condenser) or with plain mirror and achromatic condenser.[2] The advantages of critical illumination reside in the fact that in many cases fine details of structure are displayed to better advantage than when the light is not critical.

Referring again to the rheostat, the one here used contains twelve steps or grades of resistance, the maximum being forty ohms. With the entire resistance in circuit the lamp burns with a fairly bright light of slight yellowish tint. As the arm is moved forward step by step the light increases in brilliance until the sixth step is reached, at which point the intensity becomes dazzling and beyond which it is not prudent to go, that is if the life of the lamp is to be preserved for any length of time.

The quantity of light thrown on any subject under examination varies with the quantity emitted from the original source, controlled in turn by the diameter of the diaphragm, the intensity of the light remaining the same; and it is well known that certain objects become visible only when the quantity of light is diminished by a small diaphragm. When the intensity varies, however, the case is quite different, for we find that in a large proportion of objects fine detail is displayed to better advantage by increase rather that diminution of the intensity. This opens a field of investigation in connection with microscopical illumination that has not been, so far as I am aware, hitherto explored. My own experience with it, limited to a few months only, is insufficient to enable me to speak in detail of all the benefits that may be derived from having the variation of intensity under such perfect control. I am satisfied, however, if the working microscopist once has this means of control at his command he will never afterward willingly give it up. My personal experience, moreover, is in full accord with theory. With light of lower intensity there is a larger relative proportion of rays of long wave-length, while with the higher intensity the light contains fewer rays of long wave-length and a relatively larger number of those of short wave-length. The symbol λ is usually employed to indicate the wave-length, and we have the equation $Rp = \frac{2\ N.\ A.}{\lambda}$. In other words Rp (resolving power) is greater as λ (wave-length) becomes smaller. For definition I prefer the longer wave-lengths; but for resolution the shorter ones are more effective. I therefore offer the arrangement here described as a distinct improvement over our present methods of microscopical illumination so far as the use of the artificial light is concerned.

In the *American Journal of the Medical Sciences* for July, 1893, I called attention to the advantages that would accrue both in visual and photo-micrographic work from having the objective corrected specially for the D line of the spectrum rather than for the shorter wave-lengths (F to G lines). Such lenses, performing in the most satisfactory manner, have been made for me and for others by Spencer, Gundlach, Bausch & Lomb, and Leitz, and can be obtained from them on special order.

In the MEDICAL RECORD of March 24, 1894, I described "A simple means of increasing the aperture and improving the performance of some immersion lenses." The lenses referred to were some English water-immersions, and certain oil-immersions of American make. The means adopted consisted simply in substituting the mono-bromide of naphthalin for the water or oil which the makers had originally intended to be used with their respective lenses. This substitution necessarily introduced a high degree of negative spherical aberration, which in turn was corrected by closing the systems and shortening the tube-length. By this means the numerical aperture was increased in the water-immersions in the ratio of 1.33 to 1.65, and in the oil-immersions in the ratio of 1.52 to 1.65. I further proposed that the opticians construct objectives primarily intended for use with the mono-bromide, but which could, if necessary, be used with oil. Dr. Dallinger, in the *Journal of the Royal Microscopical So-*

[1] Read before the New York Academy of Medicine, April 18, 1895.

[2] Critical illumination cannot be obtained when using the chromatic or so-called Abbe condenser.

ciety, has criticised this idea unfavorably and irrelevantly, but I believe that if he makes the necessary practical tests he will change his views. I also communicated the idea here stated to a practical German optician of world-wide fame. The reply from Germany was definite and clear, and to the effect that the thing could not be done; that a lens could not be constructed that would work with mono-bromide, unless it was used in connection with objects mounted in media of high index on flint-glass slides and with flint-glass covers.[1]

A number of important improvements in connection with microscopy have been accomplished by American investigators, but almost without exception they have been received with ridicule and incredulity abroad. When many years ago the late Charles A. Spencer stated that he was able to construct well corrected objectives with an angular aperture exceeding 170°, the foreign criticisms were to the effect that he was either mendacious, or else that he did not know how to measure angular apertures. All the same, he sent a lens to England, the angle was measured and his statements confirmed.

When, a few years later the late Robert Tolles declared he had constructed a lens which practically possessed a higher aperture than that of the highest possible theoretical angle (180°) his statements were met with substantially the same reception. To-day we have in common use as the outcome of Tolles's ideas lenses with a numerical aperture from thirty to fifty per cent. higher than is possible with any dry lens possessing an angle of approximately 180°.

When also the late Colonel J. J. Woodward, M.D., asserted that he had resolved certain of Nobert's test-lines that had baffled European ingenuity, his reception was equally inhospitable. His photo-micrographs, however, settled the question.

Cognizant of the experience of other American investigators, I was quite prepared to encounter hostile criticism, but must confess I had some slight curiosity to learn the exact form it would take. I then conferred with an American optician, Mr. Herbert R. Spencer, of Buffalo, who constructed for me a special mono-bromide of naphthalin immersion lens to my entire satisfaction, and I will later show you (on the screen) a photo-micrograph taken with it of the well-known test object the Pleurosigma angulatum. The object was an ordinary commercial Möller slide, attached to a crown-glass cover and mounted on a crown-glass slide, and in a medium of low index, namely air (n = 1). This absolutely disproved the validity of the German criticism.

In my article in the MEDICAL RECORD (*loc. cit.*) referring to substage condensers I wrote as follows: "The only existing strictly high-grade condensers that I know of are the achromatic and apochromatic condensers of N. A. 1.40 made by Powell & Lealand, of London. These will cost, laid down in New York, duty paid, about one hundred and twenty dollars each.[2] This price will prove prohibitory to many, and it is to be regretted that American opticians have not as yet found a way to produce a condenser of equal merit at a price that would bring it into more general use."

Since the above was written Spencer has accepted the challenge and supplied me with an achromatic condenser with N. A. 1.40, and at about half the cost of the English one. In its general performance and convenience of manipulation, it decidedly surpasses the Powell & Lealand achromatic N. A. 1.40 which I had at command for several months. Messrs. Watson & Sons, of London, recently informed me that they had just perfected an achromatic condenser with N. A. 1.25, but did not advise me as to the price.

In this connection I may be asked—what are the advantages that accrue from such large apertures in objectives and condensers? As regards objectives a twofold answer may be given. First: Resolution varies in direct ratio with the numerical aperture, the greater the aperture the greater the resolving power or ability to distinguish and separate small particles from each other. This is a demonstrable and demonstrated fact and cannot be gainsaid. Second: The greater the aperture the more truthful the image; *i.e.*, the closer the agreement between the virtual image and the geometrical form and dimensions of the object in gross and in detail. This is not a demonstrable fact, but is a deduction from Abbe's theories of microscopical vision, and must be accepted *pari passu* with them. To explain Abbe's theories in full with his demonstrations would require more space than can here be given. I shall offer, therefore, only a condensation from Davis.[1] This writer says:

"Professor Abbe tells us 'the very first step of every understanding of the microscope is, to abandon the gratuitous assumption of our ancestors, that microscopical vision is an imitation of macroscopical, and to become familiar with the idea that it is a thing *sui generis*, in regard to which nothing can be legitimately inferred from the optical phenomena connected with bodies of large size.'

"From the researches of Professor Helmholtz and Abbe, it has been clearly demonstrated that images of bodies of large size, when formed by lenses free from chromatic and spherical aberration, are in themselves geometrically correct pictures, truly resembling the objects themselves, were they enlarged to the same size and illuminated in a similar manner. Pictures formed in this way are termed dioptric images. When, however, the object is made up of particles less than $\frac{1}{2500}$ of an inch separated from each other, it is no longer possible to depict such structure by ordinary dioptrical means. The resolution of structures made up of particles having smaller intervening spaces than this is effected entirely by what is called 'diffraction,' the broad outline being, however, at the same time depicted by dioptrical rays. The light in its passage through the object is modified, or scattered, and produces what are called diffraction spectra, which may be easily seen in the microscope when proper means are taken for their exhibition. If the ultimate particles of the structure are comparatively large, the diffraction spectra will most probably all lie within the field of the objective, while if they are small they may produce such a wide dispersion of the interference-spectra that only a part of them may range within the field, the remainder being lost, owing to the aperture of the objective not being able to collect them. If only a portion of the diffraction spectra be collected by the eye-piece, it can scarcely be expected that the true structure is exhibited, and in fact this is the case, which can be easily exhibited by numerous experiments.

"Professor Abbe further says that very minute structural details, as a rule, 'cannot be interpreted as morphological, but only as physical characters; not as images of material forms, but as signs of material differences of the particles composing the object; so that nothing more can safely be inferred from the image as presented to the eye than the presence in the object of such structural peculiarities as will produce the particular diffraction phenomena on which the image depends."[2]

[1] "Der Vorschlag des Herren Professor Dr. Piffard wegen eines monobrom-Naphthalin objectives in zur ausfuehrung zu umständlich und solche waren auch in Gebrauch unpraktisch. Diejenigen welche von Zeiss angefertight werden leiden ebenfals an diesem Fehler so mussen Z. B. Condenser, Deckglass, und vordeste Linse aus Schwersten flint-glass sein dito objectträger, und Einbettung in eine stark breckende Fluessigkeit (Realgar) was alles dem opticer die herstellung erschwert; und ein System in der angegebem Weise hergestelt wurde die Leistungen der heutigen Oel Immersionen nicht uerberbieten."

[2] They are a little cheaper now.

[1] Practical Microscopy, by George E. Davis. Am. Edition, 1889.

[2] Those desiring further information on this subject may consult Czapski: Theorie der optischen Instruments nach Abbe, Breslau, 1893.

The value of high aperture in dry as well as in immersion lenses, is, I believe, underestimated by many laboratory workers who have followed the teachings and practice of continental laboratories rather than the dicta of science in this respect. The students of diatomology first learned to appreciate these lenses in their own special work, but the histologists and pathologists, or rather the majority of them, fail to convince themselves of their utility. They labored under a mistaken idea that penetration and depth of focus was a *sine qua non;* and as the penetration varies inversely with the numerical aperture the lower rather than the higher ones were chosen. I allude more particularly to lenses of low and medium power, say from one inch to one-sixth inch equivalent focus. There were, however, two other reasons that kept the higher apertures out of the laboratory, namely their greater cost, and the fact that medium powers required careful adjustment for thickness of cover-glass in order to obtain the best results that the lens is capable of giving. A 10 or 12 mm. lens with an angular aperture of 100° (N. A. .76) is an unknown construction on the continent; but such lenses may be readily obtained from American and English opticians.

Professor J. Edwards Smith [1] was perhaps one of the first to insist on the advantages of high apertures in histological work, and he is ably seconded in more recent times by Dallinger.[2] I desire to add my own experience and testimony in the same direction.

As regards the desirability of high-apertured condensers it may be stated that they are necessary in connection with high apertured objectives; that is to say, if the full working capacity of the objective is to be utilized, and an achromatic condenser bears a similar relation to a non-achromatic "Abbe" that an achromatic objective does to the old style French non-achromatic triplet, such as microscopists of fifty or sixty years ago were in the habit of working with. It should be remembered, however, that the aperture of the condenser should not be disproportionately large as compared with that of the objectives. If you attempt to pour a quart of beer into a pint measure, you will surely disorder the table or the floor, and if you use a condenser of N. A. 1.40 with an objective of N. A. .70 you will disorder the image in like manner. The advantages of an achromatic condenser compared with an Abbe will be appreciated only by those who have used both. The confusion of light rays that come through an Abbe condenser (especially when using artificial light) are to me at least as disagreeable and fatiguing as a Babel of sounds would be to a sensitive ear.

In the MEDICAL RECORD (*loc. cit.*) I wrote as follows: "The increased visibility given to certain structures by the use of mounting media of high index is a subject that merits more attention than it has hitherto received, as it constitutes one of the factors that contributes to the best final result."

Diatom-workers have for years sought to improve their technique in this direction. Many diatoms are mounted "dry," that is, with air (n.=1) as the medium; glycerine (n.=1.46) is never employed; Canada balsam (n.=1.54) is largely used; styrax (n.=1.58) from the *Liquidambar orientalis* Miller, and liquidambar (from the *Liquidambar styraciflua* L., were found to be improvements; mono-bromide of naphthalin (n.=1.65 gave still better immediate results, but the mounts are difficult to keep; iodide of methyl almost impracticable in use; phosphorus (n.=2.22) is dangerous; stannous chloride dissolved in glycerine jelly [3] and realgar, both introduced by Professor Hamilton L. Smith, possessed very high indices, the latter approximating 2.40. The higher the index the more clearly the details of the diatom structure are shown, but as there are serious difficulties connected with the use of all the media of very high index, many diatom-mounters have adopted the mon-brom-balsam, as the medium best adapted to general routine use. This preparation consists of a solution of hard Canada balsam in mono-bromide of naphthalin, and the index will approximate 1.60, being a little higher or lower according to the proportion of the respective ingredients in the mixture.

In biological, histological, pathological, and bacteriological work, many of the media above named are impracticable, and the almost universal mountant is Canada balsam, thinned with turpentine, chloroform, benzol, or xylol.[1] A few experimenters looking for something better than balsam, have tried "mono-brom-balsam," but report it unsatisfactory.

Being fully aware of the advantages of some of the higher media in connection with diatoms, I have during the past three years given such time as I could spare to the search for better media for histological work. Styrax and liquidambar were tried and found better than balsam, but not quite good enough. Mono-brom-balsam was then employed, and exhibited manifold advantages over the others, exhibiting histological details and bacteria very much better than balsam, and not open to the objections (lack of permanency, loss of refractive index, etc.) that have been urged against it. For temporary mounts demanding immediate examination its advantages over the ordinary balsam are very evident. In connection with permanent mounts there is one inconvenience. The mixture dries very slowly, and even weeks after mounting the slightest force will displace the cover-glass from its position on the slide. The best procedure is to carefully centre the cover on the slide and then put it away for a week or two, after which adjust the slide on the turn-table and spin a ring of cement (shellac is best) around the edges of the cover.

Instead of using balsam dissolved in mono-bromide, a more desirable mixture, and one of higher index, may be prepared by substituting purified liquidambar for the balsam.[2]

The advantages of the latter preparation over the mono-brom-balsam are twofold: 1. When the liquidambar is mixed with mono-bromide of naphthalin in the same proportions as the balsam the refractive index is higher (n.=1.625) and we have increased visibility of minute bodies of lower index (tissues, bacteria, etc.).[3]

[1] How to See with the Microscope. Chicago, 1880.

[2] Carpenter: The Microscope and its Revelations, edited by Dallinger. London, 1891.

[3] Index will vary according to method of preparation.

[1] In one laboratory in this city glycerine is used to the exclusion of balsam, a procedure that, owing to the low refractive of the medium, is unphilosophical in the extreme.

[2] Purified liquidambar is not an article of commerce, but may be prepared in the following manner:

Procure a pound of the crude gum (an exudation from the *Liquidambar styraciflua* L., and put it in a water-bath to liquefy. Arrange also a Plantamour's jacketed funnel, with glass funnel inside, and two or three thicknesses of cheese-cloth. When the gum is sufficiently liquified, and the Plantamour funnel hot, proceed to filter. The filtrate should be received in a quart bottle. When cold add one pound of xylol. This should be mixed as thoroughly as possible with the filtered gum and well shaken with it several times a day for at least two weeks. At the end of this time filter the mixture two or three times through absorbent cotton or Swedish paper. The product will be a thin but perfectly clear and transparent fluid. This must now be concentrated by gentle heat, and the process may be considered complete when the warm liquid has about the consistency of thick molasses. When cold it forms a semi-solid mass extremely sticky and tenacious. Two parts of this should be mixed with three parts of mono-bromide of naphthalin, and a little gentle heat applied. The result will be a clear amber-colored fluid. Its refractive index should then be tested and brought to 1.625 by the further addition of whichever of the ingredients may be necessary.

Care should be taken to use the proper gum, as above indicated, which is the American "sweet gum;" and not the gum from either the *Styrax officinale* L., nor the *Liquidambar styraciflua* Miller.

As to the permanency of this preparation I can only say that I have mounts made with it two years ago which as yet show no signs of deterioration.

[3] The relation of the refractive index of the mounting medium to the indices of microscopic objects has not received the general attention it deserves. On this point Van Heurck, referring to diatoms writes as follows: "When any substance is immersed in a medium it becomes more or less visible according to the difference of their respective refractive indices. Taking the index of diatom silica at 1.43 and water at 1.33, the number ten will express the visibility of diatoms in water. Canada balsam has an index of 1.54, which would give eleven degrees of visibility. Pure styrax has an index of 1.60, and consequently the visibility would be 17, while mono-bromide of naphthalin

2. The mixture is more sticky and adhesive than the mono-brom-balsam, and the mount can be finished for permanent preservation in a shorter time.

In offering therefore the "naphthalin-ambar" I present it as the mounting media of highest index thus far produced, that can be put to practical use in bacteriological and histological work, and consequently the one best calculated to exhibit the intimate structure of this class of objects.

A very considerable portion of the laboratory work of the present day consists in the examination of sputum, and other bacterial mounts for diagnostic purposes only, and without any intention of preserving the slides. The medium most commonly employed in this connection is the ordinary immersion oil, with a refractive index of a little under 1.52.[1] A medium of higher index would bring the objects into sharper contrast. There are a number of essential oils that possess a higher index than cedar, and which can be used for this purpose, but I know of none that in this respect equals the oil of cassia. The oil is credited with an index of 1.605, but the index of the best sample that I have been able to obtain is 1.593. It is the product of the *Cinnamomum cassia* Blume, and is the official *Oleum cinnamomi* of the United States Pharmacopœia. It must not be confounded with the true cinnamon oil (from the *Cinnamomum Zeylanicum* Breyne, as this latter has a much lower index. There is little danger, however, of sophistication in this direction, as the Ceylon oil costs eight or ten times as much as the cassia. Bacilli examined in cassia exhibit an unrivalled brilliance and sharpness of contour; and the minuter details, such as spores, flagella, etc., are shown with a distinctness impossible in cedar oil. The oil of cassia, like the oil of cloves, tends to abstract the color from bacilli stained with some of the aniline dyes, but not with sufficient rapidity to interfere with the diagnostic examination.

Dr. Bowles Lee, in his most excellent "Microtomist's Vade-Mecum" (London, 1890), in his chapter on clearing agents, gives a list compiled from Stieda, of oils more or less used by histologists. He also quotes the researches of Neelsen and Shiefferdecker, who examined and experimented with a large number of essential oils, and who specially recommend the oils of cedarwood, origanum, and sandal-wood.

I find that there is a marked lack of uniformity among workers as to their employment of clearing oils, many preferring, for some reason or another, the oils of cloves, bergamot, lavender, cajuput, etc., and the confusion of ideas on the subject is rather embarrassing to the beginner. This is due in great measure, I think, to the fact that the name under which any given oil is sold is by no means conclusive either as to its identity or purity. The oil of origanum, for instance, is mentioned in every work on histology and is found in every laboratory, and may be bought in open market at almost any price from thirty-five cents a pound to fifty cents an ounce. By the oil of origanum is meant the essential oil derived from the *Origanum vulgare* L. Desiring to obtain all possible information concerning this oil I turned to Flückiger and Hanbury's Pharmacographia and was surprised to find no mention of it in the index. Under another heading, however, I found the distinct statement that there is no oil of origanum in commerce. This Hanbury later confirms ("Science Papers," London, 1876), stating that the oil commonly sold under this name is in reality the red oil of thyme distilled in the south of France. Although it is exceedingly cheap it is liable to adulteration with turpentine. Mr. Hanbury, however, desired an absolutely authentic specimen of the true oil or origanum, and had the plant gathered and distilled for him in England. Seventy pounds of the plant yielded but one ounce of oil, concerning which he says:

"Contrasted with the oil of thyme the oil of origanum is distinguished by the following characteristics: 1. Odor, which is somewhat analogous to that of oil of peppermint, and entirely dissimilar from that of oil of thyme. 2. Color, which in oil of origanum is bright yellow, while the ordinary kind of oil of thyme is of a more or less deep reddish-brown."

It being quite clear that the substance sold as oil of origanum is not such, and it being equally certain that a good deal of the red oil of thyme is fraudulently sold under this name, the question may be asked whether there are any other sophistications to be guarded against. Some time since I procured a sample of what I believed to be genuine red oil of thyme, and found its refractive index to be 1.483, and also found it exceedingly undesirable as to a clearing agent in the limited range of tissues in which I tried it. Besides this, it presented marked differences in refractive index, and in other particulars, from several samples of "oil of origanum" with which I compared it. The only conclusion, therefore, that I have been able to draw is that there are a variety of oils sold under this name, and there is no certainty that any two workers may be using the same identical substance. There is, however, an essential oil derived from the *Origanum creticum* L., which some writers say is the proper one to employ. The refractive index of a specimen of this oil in my possession I find to be 1.492.[1]

Lee very properly says: "It would be important to possess a list of the exact indices of refraction of the substances used for clearing. I have unfortunately not been able to obtain sufficient information of a trustworthy nature for the compilation of such a list. Cedar oil has nearly the index of crown glass [this is true of the oil in the thick state to which it has been brought by exposure to the air, not of the thin, raw oil, which is less highly refractive], it therefore clears to the same extent as Canada balsam. Clove oil has a much higher index, and therefore clears more than balsam. Turpentine, bergamot oil, and creosote have much lower indices, and therefore clear less."

I most thoroughly indorse Dr. Lee's recommendation, but would go farther and advise a thorough restudy of our clearing media. Let whoever will undertake this research first procure samples of the various essential oils of unquestioned genuineness and purity. Next determine their refractive indices. Then, commencing with those of either highest or lowest index, ascertain and record their behavior with celloidin and paraffin sections, both as regards the simple tissues (connective, elastic, epithelial, glandular, etc.), and the compound ones, such as the skin. The oils found most desirable should then be carefully described so as to insure subsequent identification. Their color, consistence, specific gravity, and other physical peculiarities should be noted as well as their rotatory influence on polarized light. The determination of the refractive index is not alone sufficient for identification or test of purity; for instance, I have two specimens of cajuput oil that differ markedly in color, consistence, and behavior, and yet both possess the same index, namely, 1.465. It may be needless to say that the investigator should compare the data obtained by himself with the facts ascertained by prior workers, consulting freely

with an index of 1.66 would give a visibility of 22."—The Microscope, Antwerp, 1891.

This general rule applies not only to diatoms but to all other bodies that the microscopist has occasion to examine by transmitted light.

The determination of the refractive indices of oils and other fluids is so readily and quickly accomplished by means of the Abbe Refractometer, that one is surprised that this instrument is so little known and used in the laboratories for the purpose of standardizing their various media. It is made by Zeiss and sold in this city by Eimer & Amend. The German price is 260 marks.

[1] Zeiss standardizes his at 1.515, but I have found a striking lack of uniformity in the oils from other lens-makers, most of them being lower than this standard. If adjustable objectives are used this makes little difference as the lower index of the medium can be compensated for. If, however, the ordinary non-adjustable lenses are employed, the result will be an under-corrected, and consequently more or less untruthful image.

[1] Dr. Delafield has recently given me a sample marked Oleum origani cretici album, which has an index of 1.479.

existing literature, and particularly the writings of pharmacologists and physicists.

Whoever will undertake the study here outlined will without question deserve and receive the heartiest thanks of his co-workers in microscopy. The pathological thought of the times is exploring new avenues. In the days of the older pathologists we were content with the examination and study of morbid tissues in gross; later, with Virchow and his successors, we studied them more minutely, that is, the relation of the different tissues to each other. Now we seek to delve into the innermost recesses of the tissues themselves, and of the separate elements that compose them, and Metchnikoff has carried us still farther, even to the vital processes going on in the smaller living unicellular organisms. To investigate these to advantage one must avail himself of every optical aid that science places at his command.

10 West Thirty-fifth Street.

THE QUICK CURATIVE TREATMENT OF GONORRHŒA.

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I believe it to be generally conceded all over the world at the present time that acute gonorrhœa is a specific disease, whose origin is the implantation on a mucous membrane of a pathogenic micro-organism, the gonococcus of Neisser. At any rate, those very rare cases of simple acute urethritis in which the gonococcus is not found are mild, non-contagious, require little or no treatment, and get well very quickly. I do not think it is stating it too strongly to say that in every case of acute urethral discharge the first thing to be done by a surgeon competent to treat the disease, is to prepare a slide from the urethral secretion and make a careful microscopical examination. This at once reveals the true nature of the disease, and settles the question whether or not the particular case in hand is of specific origin, and therefore due to contagion from another case of the same disease. It is my own decided conviction that if this were done, we should hear very few, or indeed no more such statements as the following. I quote from the most recent American text-book on surgery, published in 1894.[1] "Authentic cases are recorded of well-marked urethritis following accidental or experimental exposure to leucorrhœal discharges; to the secretion from an endo-cervicitis or endo-metritis (yes, if it contains the gonococcus) [parentheses my own]; to the discharge resulting from ulceration or malignant disease of the uterus; the menstrual fluid or acrid vaginal discharges; . . . and to many other undoubtedly non-specific causes."

The nature of the disease being settled, the next consideration is the prognosis and treatment. I need not spend a moment in enumerating the complications that are liable to arise, and often do appear, in what may seem at first, the most innocent case of clap. Swelled testicle, cystitis, retention of urine, stricture, surgical kidneys, etc. They are too well known. And what is the most enlightened and modern estimate of the duration of the best-managed case, free from complications and sequelæ? "In the most favorable event it requires a period of six weeks, a fact which it is well that the patient should be advised of beforehand."[2]

I believe that the method of treatment regarded as best, and pursued by the recognized authorities at the present time, is the symptomatic plan. "The only method of treatment that we practise at the present time is the methodical, local, symptomatic, and curative plan."[1] In this plan topical treatment finds no place until the acme of the disease has been passed, and is indeed regarded as being positively harmful when employed before that time. These ideas of treatment have been reached as the result of the failure of measures aimed at destroying the specific cause of the disease, the gonococcus, and it would further seem that the condition of the tissues produced by the irritation of topical remedies, rendered them a more favorable soil for the penetration and growth of the microbes. There can be no question of the fact that the ideal plan of curative treatment would be obtained, if, at the beginning of an acute gonorrhœa, scientifically demonstrated to be such by the proof of the presence of the gonococcus, we could apply a remedy which would effectually destroy the organisms, and thus remove the cause of future inflammation. It is a necessary condition that this should be effected without harmful destructive action on the tissues, the production of complications, or greater pain and discomfort to the patient than his disease would occasion.

I am as well aware as anyone that the so-called abortive treatment of gonorrhœa is a very old one, that numerous claims have been made to establish its feasibility, and that many plans have been put forward as sure and safe for its accomplishment. I am also aware that hitherto no such claim has been substantiated so far as to meet with general acceptance, and that the array of opponents in the hostile camp is more formidable in numbers and authority, and at the present period seem to be on the victorious side. The feud between the advocates of the abortive and conservative treatments is a very ancient one, has been very fiercely conducted, and is thought to have been buried out of sight long ago.

But let us see briefly what are the chief objections urged against a quick curative plan of treatment. They are mainly two. The first, a scientific consideration based on the pathogeny and pathology of the disease, and the second, a matter of clinical experience that the method not only fails to accomplish its purpose, having to be discontinued before the patient is cured on account of the pain and distressing symptoms to which it gives rise, but, likewise, is extremely apt to originate disagreeable complications. Let us turn our attention to the first.

It is claimed to have been shown by those who have recently studied the behavior of the gonococcus, that after having once gained a lodgement on the mucous membrane, it quickly penetrates first the upper layer of epithelial cells, then the lower, and with comparative rapidity the papillary body, and proceeds to proliferate, with astonishing fertility, in the upper layers of the sub-epithelial connective tissue. Finger claims the futility of any attempt to cut short the disease because of the rapidity of penetration of the gonococci; hence he says,[2] "We could expect success from those remedies alone which would destroy the entire epithelial layer, and would penetrate to the papillary bodies. Hence the damage would be much greater than the good to be derived from certain destruction of the gonococci." But is this really the case? Is the penetration of the cocci so rapid?

Finger, himself, says in another place, p. 88: "The opinion is beginning to prevail that the gonococci long remain upon the surface, and proliferate exclusively upon and between the upper layers of epithelium. This opinion is based upon a series of anatomical findings. These include the investigations of Toulon (1889), Jadassohn (1890), and Fabry (1891), on gonorrhœal para-urethritis; those of Rosinski (1891) on gonorrhœal aphthæ; and those of Toulon (1893) on gonorrhœal bartholinitis. In all these cases—and I have convinced myself of the correctness of the findings by examination of several para-urethral gonor-

[1] An American Text-book of Surgery, Keen & White. W. B. Saunders, Philadelphia, p. 851.

[2] Gonorrhœa, by Dr. Ernest Finger. Third edition, p. 131. Wm. Wood & Co., 1894.

[1] Finger, loc. cit., p. 122.

[2] Loc. cit., p. 121.

rhœas—the gonococci proliferate exclusively upon the surface of the pavement epithelium, and form patches upon their uppermost layer."

From comparison of these two statements it must at least be conceded that it becomes a question of time alone, whether or not the gonococci can be reached while they are still proliferating on the surface epithelium. If so, they may be destroyed without injuring too seriously the entire thickness of epithelial covering. The period of incubation of the disease, the mucoid nature of the early discharge, the mild character of the first symptoms, and the weight of testimony, inclining to the verdict that the disease is well established before the cocci migrate into the sub-epithelial connective tissue, tend very strongly to confirm this idea.

What in effect is Crédé's method of preventing, and curing in its inception, ophthalmia neonatorum—a method that has saved the sight of innumerable eyes, but a rapid destruction of gonococci? And it was in blennorrhœa conjunctivæ neonatorum that Bumm's investigations on the rapid migration of the gonococci were made. It is on Bumm's theories that the scientific objection to an attempt at rapid cure is based. Crédé's results are a sufficient reply.

Now, as to the second objection—the clinical one. This is a much more difficult matter to discuss. Here the personal equation enters much more largely as a factor. Apparent facts are liable to different interpretations by different observers. The same method may be applied in totally different ways by different men, and results claimed are not so susceptible of proof by others. Statistics, which, notoriously, may be manipulated to show opposed conclusions, are brought forward and cited on one side or the other, sometimes to the utter confusion of both.

In the present instance it must be remembered that the mass of accusations, marshalled under the clinical aspect against a quick curative plan, were made before the study of the disease was placed upon a scientific foundation; and therefore must be received with great caution.

When pain, chordee, vesical tenesmus, etc., are known to be among the most frequent symptoms of the disease itself, is it proven that they are produced by an injection, because one has been given? When the stricture occurs, which is well recognized to have as its cause, in the vast majority of cases, a preceding acute or chronic gonorrhœa, is it a result of the injections that were given, because the case was treated in that way? Are periurethral abscesses, glandular inflammations, epididymitis, prostatitis, and cystitis caused only, or in most cases, by the severe method of treatment pursued, while they seldom or never occur in cases untreated or treated merely by the expectant plan? From the very nature of the case all these clinical matters are scarcely susceptible of rational proof or disproof, and it would be useless here to seek the pros and cons on the subject as shown by the weight of clinical facts hitherto arrayed on one side or the other.

It appears to me that the proper course to substantiate what claim I have to make under the clinical aspect of this subject, can only be pursued by bringing forward the clinical facts put in my possession by my own observations on the cases that have come under my care. I claim no novelty of plan, procedure, or medicament; but I make the statement, and hope to vindicate it, that a quick, curative plan of treatment in acute gonorrhœa in its early stage, as I have used it, is not only practicable, but succeeds completely in a great many more than a majority of cases, is not deleterious in any, and has proven itself free from the danger of giving rise to serious consequences or sequelæ. I have, it is true, but a comparatively small parade of figures to present, but I hold that one case well observed and studied, will often afford as much knowledge on a given subject as one hundred. In such a matter there is no just parallel to seeking to place the status of a capital operation by obtaining the percentage from statistics of recoveries and deaths.

I will now explain the plan of treatment as it has finally been evolved, expose briefly its *rationale*, and then present the clinical facts on which my statements are based.

When a patient presents himself complaining of symptoms pointing to a urethral difficulty, I first get a detailed history of the case, and then on examination of the penis, smear a little of the secretion, if there be any, on a cover-glass. If there be none, or but a slight moisture, I rub the sterilized platinum wire with a little loop on it over about three-quarters of an inch of the walls of the urethra a few times, and smear this on a cover-glass. After staining in the usual way with methylene blue, I examine under an immersion lens. If gonococci are found and the history of the case shows it to be one of acute infection, and if there be a fair proportion of epithelial cells present in the secretion under the microscope, I deem it a good case for the quick curative plan of treatment, and proceed as follows:

Having had the patient urinate for the purpose of cleansing the canal, which I think is sufficient without further irrigation, I myself inject into the urethra, the patient being in the recumbent position, with an ordinary conical-shaped soft rubber pointed clap syringe, one drachm of a four per cent. solution of nitrate of silver. I seize the meatus on removing the syringe and hold the solution inside the urethra for from two to three minutes by the watch. The patient complains of none or but little pain at the time, and at most, according to my experience, a little smarting on urination during the next twenty-four hours, at the expiration of which time he is directed to present himself again. In the meantime he is cautioned to follow strictly the usual hygienic rules prescribed in these cases, and to do nothing more for himself whatever. When he presents himself again it will usually be found that the character of the discharge has changed to a thin serous fluid, a little more abundant than it was before, and on smearing the cover-glass and examining, it will be found that the gonococci have entirely disappeared or have been exceedingly reduced in numbers. If none are found two or three more cover-glasses are smeared and examined to make sure of the fact, and nothing more is done. The slight inflammation will then disappear in the course of twenty-four or forty-eight hours, but the secretion of the urethra is examined for several days until no more pus is present, and shows only normal epithelial cells, or as is sometimes the case, the ordinary bacteria that are commonly found in healthy urethræ.

If the gonococci have not entirely disappeared, the injection is repeated with a drachm of a two per cent. solution of silver nitrate, and in twenty-four hours a re-examination is made. The second injection produces a little more pain afterward than the first, and the secretion the next day is more serous, and perhaps tinged with blood; but I have not yet found a patient refuse a third injection when I have deemed it necessary with a one per cent. solution. If the gonococci have not entirely disappeared by this time, it is useless to proceed further, the treatment is abandoned for the time, and the symptomatic plan pursued; but, as will be seen later, so far as my cases show, the duration of every one of them has at least been materially shortened, and no more complications have ensued. The conditions at present accepted as necessary to the assertion of complete cure have been adopted in all cases, namely the absence of gonococci for a number of examinations, the absence of pus corpuscles, and periurethral complications.

A few words as to the *rationale*. Speaking of medicaments employed, Finger, page 114, says: "None has been employed so much, has been extolled and deprecated so much as nitrate of silver, *the most effective of*

all" (italics mine). I certainly subscribe to this statement and have adopted its use. This metallic salt, according to Jerosch (1889), in solution of 1 to 1,000 kills the germ in cultures in two to three minutes. (Finger, p. 99.) But in the urethra some of it forms an insoluble albuminate with pus, blood, and the protoplasm of the cells and epithelium. The use of a drachm of four per cent. solution is more than sufficient for bactericidal purposes.

In the early stages of an acute infection the germs have pervaded the anterior portion of the urethra only, and consequently the simple injection by an ordinary penis syringe is all that is required to attack them.

Now in the natural processes of spontaneous reaction of the tissues against the invasion of the disease, the cocci are carried outward from the sub-epithelial connective tissues if they have already penetrated so far, or from the lower layers of the epithelium by the leucocytes, and the stream of serous fluid exuded from the congested capillaries and lymphatics which is a constant current pushing its way to the surface. It is a matter of observation in every case that the application of a powerful solution of silver nitrate increases the afflux of leucocytes and rapidly augments the quantity of serum passing from the vessels, changing a mucous or even a purulent secretion into a markedly serous one almost immediately. I think, therefore, that it is a fair interpretation of the *rationale* of the action of this medicament to say that it stimulates the natural reaction of the tissues against the disease to still greater activity in clearing themselves more rapidly and completely of the germs that it has not reached directly to destroy. Its action is, therefore, directly in line with the efforts of nature, and merely makes those efforts stronger, more certain, and more rapid.

This serous discharge caused by the action of silver nitrate likewise seems to be a very unfavorable culture medium for the gonococci. This latter view receives a certain amount of corroboration from the researches of Dr. Lemoyne de Martigny, as set forth in a recent thesis upheld before the Faculty of Medicine of Paris.[1] He is advocating the use of permanganate of potassium in gonorrhœa. "Permanganate of potassium, which is not absorbed, and does not act on the deep layers of the mucous membrane, determines, however, an œdematous swelling of the entire urethra and a serous discharge of variable duration. Now this serous medium on the mucous surface of the urethra, and even in the interior of the walls of the canal, is most unfavorable to the reproduction of the organism. By irrigations, the gonococci are washed away from the surface of the urethra; by the reaction produced by them they can no longer be cultivated and proliferate to any degree, and the organisms which are situated in the depths of the tissues are soon expelled by the serous flux." If this be true of potassium permanganate, the same effect is seen in a multiplied ratio with a strong solution of nitrate of silver.

We will now proceed to the exposition of the clinical facts at my disposal, as in the order indicated above. During the past eighteen months fifteen cases of acute gonorrhœa in males have presented themselves in my private practice, which is general surgical work. I give the brief histories of all of them, so that the proportion of complete or partial success may be fairly estimated. The microscopic slides are a portion of the record of every case, so that there is absolute demonstrative proof of every statement. I give the cases in chronological order.

Case I.—Mr. S. J——, aged fifty, bachelor, presented himself May 27, 1893. Has had several previous attacks of gonorrhœa, but no urethral difficulty of any kind in ten years. Suspicious connection three days previously. This morning, at rising, noticed slight burning pain on micturition, and during the day observed slight discharge. In the evening, at the time of consultation, there was slight pouting and redness at meatus, and a drop of muco-purulent secretion. Microscopical examination showed pus-cells, epithelial-cells, and numerous gonococci. Injected urethra after urination with a drachm of four per cent. solution of silver nitrate, and directed him to call again on the morning of the 29th. On that date reported he had experienced little or no inconvenience, and had attended to his business as usual. There was a slight serous discharge, showing pus and epithelial cells microscopically, but no gonococci. Nothing more was done for patient, and subsequent examinations showed no return of gonococci and complete disappearance of pus-cells. This case I regard as cured in one day.

Case II.—Mr. B. A——, aged thirty-five, bachelor, presented himself June 28, 1893. Had had a slight discharge for two or three days, which was increasing, with slightly painful micturition. Had had numerous previous attacks of clap, and had been treated for stricture, but had had no urethral difficulty for last three years. Microscopical examination revealed abundance of gonococci and epithelial scales with patches of them. After urination injected with four per cent. silver nitrate solution.

June 29th.—The discharge was abundant, but much more serous in character. A few gonococci present. Injected with two per cent. solution.

June 30th.—Discharge abundant and sero-sanguinolent; a few gonococci. Injected third time with one per cent. solution.

July 1st.—Slight swelling about glans, slight sero-sanguinolent discharge, no gonococci. Subsequent examinations for a number of days showed return of urethra to perfectly normal state, no return of gonococci, and rapid disappearance of pus-cells. I consider this as a case cured in three days.

Case III.—M. M——, aged thirty-six, married, presented himself October 18, 1893. Had had numerous previous attacks of gonorrhœa. Epididymitis on three previous occasions. Gleets lasting a year and a half at a time. Mostly always under the care of a physician for urethral trouble, but had been apparently perfectly well during the last five years since marriage. Had been drinking freely, and while intoxicated with companions, visited and cohabited with prostitute. Yesterday noticed familiar symptoms, but was unable to see me till to-day. Secretion muco-purulent. Slide shows pus, numerous gonococci, and plenty of epithelial-cells. Injected with one per cent. silver nitrate solution.

October 20th.—Gonococci very few in number. Repeated previous treatment.

October 21st.—Slight serous discharge. No gonococci. Subsequent examinations showed quick return to normal state, and no reappearance of gonococci. Case cured in three days.

Case IV.—C. J. F——, aged twenty-five, single, presented himself October 18, 1893. Has had two previous attacks of gonorrhœa, from the last of which he has been entirely well for six months. He was under my own care. Slight discharge, showing under microscope few gonococci. Injections October 18th, four per cent.; 19th, two per cent.; 20th, one per cent. solution silver nitrate.

October 21st.—Complains of a good deal of pain on urination; some swelling of glans and prepuce, and sanguinolent discharge. Used no further treatment, though a few gonococci are still present, except hot-water fomentations, and lot. plumb. et opii as a dressing. By the 24th everything had subsided, and the gonococci, to my astonishment, had disappeared, not to return, as subsequent examinations proved. Case cured in six days.

Case V.—L. P——, aged twenty-five, single, presented himself November 22, 1893. First attack of any venereal disease. Had connection on the 19th and two days later noticed pain and discharge. Microscope revealed large masses of gonococci free, and on

[1] Annals of Gynæcology and Pædiatry, January, 1895, p. 269.

the epithelial-cells of which there was a good number, and in the pus-cells. Gave an injection of a four per cent. solution silver nitrate.

November 23d.—Gonococci still present, and as he had experienced no pain or discomfort from the injection, repeated the four per cent. solution.

November 24th.—The character of the discharge, which was purulent, had not altered to a serous condition. This patient showed not much diminution in the number of gonococci present, and he was carried along under treatment, the details of which it is not necessary to go into; suffice it to say that it seemed a complete failure as far as quick cure was concerned. The tolerance of this man's urethra to strong silver nitrate injections was astonishing to behold. He urged me to give them when I was afraid they might do harm. He never suffered pain on urination, and the amount of discharge was light. Week after week passed, but he still had a drop of pus in the morning when he squeezed, but no other discomfort. So he went along under various forms of treatment until April, 1894, the fifth month of his disease. I had been noticing for some time on the slides gonococci more or less numerous, comparatively few pus-cells, but many large, flat epithelial-cells showing that they must come from near the meatus. One morning, in getting some secretion for the cover-glass, I noticed that the drop of pus did not come from the urethra at all, but from a point a good quarter of an inch inside the right lip of the meatus, and well down toward the floor of the urethra. There was no pouting or redness to the punctate opening which would have called attention to it on inspection of the urethra which had many times been made. By enlarging the opening I passed a probe down parallel to the urethra for a good inch and a half. The platinum wire introduced and smeared on a cover-glass showed numbers of gonococci, but scrapings from the urethra well down showed none. I opened the canal up thoroughly with a long narrow-bladed bistoury and touched the bottom with nitrate of silver fused on a silver probe. From that time on, no more gonococci were discovered about this patient, and a short time afterward he was dismissed cured. A couple of months later he got married, and both he and his wife have remained perfectly well. Now I firmly believe that this man's urethra was thoroughly cured early in the treatment, but unfortunately the infected para-urethral canal remained undiscovered for quite a period, and for that reason the case has to be set aside as a failure. Yet, when I observed the real cause of this, my confidence in the treatment was restored.

Case VI.—B. A——, the same individual as Case II. Presented himself February 4, 1894. Infection four days previously. Discharge light, slight burning. Gonococci abundant, free, in pus-cells and on epithelial-cells, which were plentiful. Injection of a four per cent. solution of silver nitrate. Did not return next day, but on February 6th; discharge serous and contains no gonococci. Repeated subsequent examinations failed to reveal any return, and patient was discharged when there was no more pus. Case cured in two days.

Case VII.—C. J. F——, the same individual as Case IV. Presented himself February 6, 1894. Infection four days previously. Discharge muco-purulent, fairly abundant. Gonococci very plentiful in pus-cells and free, few epithelial-cells. Injected a four per cent. silver nitrate solution. Patient complained somewhat next day after injection, and though gonococci were still present, yet fewer, nothing was done.

February 8th.—Again injected with a two per cent. solution of silver nitrate. Nothing more was done, and on the 11th no more gonococci were found. Subsequent examinations revealed no return, and in sufficient time patient was dismissed. Case cured in five days. An interesting episode connected with this case was as follows: The only woman whom he had had connection with, Mrs. B——, was married and living with her husband, so he was very much surprised to find himself in such condition. He accused her of the fact, which she indignantly denied, and she promised to call on me, firm in the purpose of confounding his impudence. She called on February 8th, first having fortified herself with the opinion of another physician, who, after an examination, had told her positively there was nothing the matter with her. On inspection there was nothing that would indicate her condition except a slight leucorrhœal discharge, and yet a smear from the sterilized platinum wire introduced into the urethra revealed swarms of gonococci; the uterine secretion contained the same. Glands of Bartholin negative. She claimed to have been perfectly well for the last two years, since she had been operated on for double pyosalpinx by Dr. Wylie of this city. She had been sick for three years previously with repeated attacks of pelvic peritonitis. She ridiculed my statement that there was anything the matter with her, and left in high dudgeon. Her subsequent history I know nothing of.

Case VIII.—F. W. W——, aged twenty-two, single. Presented himself February 28, 1894. First attack of any venereal disease. For the last ten days had had a profuse, greenish, purulent discharge, and severe pain on micturition. Had consulted no physician until he came to me. Examination revealed some œdema of prepuce with phimosis, painful condition of anterior portion of urethra, and profuse greenish, purulent discharge, which showed, microscopically, abundance of gonococci free, and in the pus-cells, few epithelial scales. In the light of my past experience, I had no fear of using a strong silver nitrate injection, and employed one of two per cent. in the usual way.

March 1st.—Discharge diminished in amount and much more serous in character. Great reduction in number of gonococci. Phimosis and œdema of prepuce slightly increased. No complaint of increased pain in urination. Injection of a two per cent. solution repeated.

March 2d.—Reduction in quantity of discharge. It is of a thin, serous quality, and under microscope showed remarkable diminution of gonococci with numerous blood-corpuscles. Nothing more was done.

March 3d.—Increase in discharge and number of gonococci. Absence of blood-corpuscles, œdema of prepuce reduced. Injected with two per cent. solution.

The patient did not return as directed, and I heard a few days later from a friend of his, that he considered himself well and did not think it necessary to come again. I cautioned him through his friend that likely he was mistaken. However, I heard nothing more of him till fifteen days later, when he returned on March 18th as bad as ever, with a profuse purulent discharge. He had been drinking with friends, and the discharge had reappeared the next day with pain. Examination showed abundance of gonococci free and in the pus-cells, and a larger number of epithelial-cells present than on the first occasion. I injected him three days in succession with a two per cent. solution, March 18th, 19th, 20th. March 21st the discharge was serous with a little blood, but there were no gonococci.

On March 25th a very few gonococci reappeared, and I injected him twice more between that time and April 1st, when they disappeared entirely and did not return. He was dismissed cured in a few days more, after repeated examinations.

It is difficult to place this case. I certainly think that had he returned as directed in the first instance, he would have been spared the subsequent sickness. But even as it was, his disease had only lasted four weeks from the time he came to see me, and of that time he had had two weeks of, what seemed to him, immunity. Certainly the symptomatic treatment does not show as good results.

Case IX.—W. B. H——, aged thirty, single. Presented himself with acute gonorrhœa March 23, 1894.

Patient had had several attacks of gonorrhœa and chronic urethritis, with constant gleety discharge for the last two years. Had been cut for stricture in the West a year ago, but with no relief. An examination showed stricture three inches down, calibre 22 French. Microscopically: Pus-cells and mucus, moderate quantity of epithelial-cells, and abundance of bacteria of great variety, among which were some that I think were gonococci—they were difficult of recognition. I would like to say, in passing, that I place no value whatever on Roux's method of differentiating gonococci; for, after making numerous experiments with it, I believe that gonococci do stain with Gram's method, though perhaps not so readily as some other bacteria. I operated upon him for stricture February 22, 1894, and in a short time freed him from discharge and his urethra from all pathogenic bacteria. On March 20th, two weeks after he considered himself perfectly well, he concluded to call on the fair sex once more, and appeared on the 23d to show me the result of his visit. Meatus reddened and pouting; sufficient muco-purulent discharge to drip, and burning pain on micturition. Slide showed abundance of gonococci free, and in the pus-cells, also on the epithelial-cells, of which there was a fair proportion. Injected four per cent. solution of silver nitrate in usual manner, and two per cent. solution on 24th.

March 25th.—The discharge was serous and sanguinolent, and he complained of quite severe pain, but no more than he had often experienced before with the clap. The slide showed pus-cells, epithelium, and red blood corpuscles (all of which were peculiarly pigmented), but no gonococci.

March 26th.—A few gonococci reappeared, and he was again injected with a two per cent. silver nitrate solution.

March 28th.—A one per cent. solution was again used, as a few cocci still persisted.

March 29th.—No gonococci were to be seen, nor did they reappear, and after repeated examinations patient was dismissed. Case cured in six days.

Case X.—Same individual as Case III., presented himself July 27, 1894. Had had muco-purulent discharge three days and considerable smarting. Slide showed abundance of gonococci free, in the pus-cells, and on the epithelial cells, which, however, were comparatively few in number. Injected four per cent. silver nitrate solution. This was repeated with two per cent. solution on the 28th, and one per cent. solution on the 29th.

July 30th.—Whatever secretion there was, was masked by blood, and the patient complained so bitterly of pain on micturition and partial retention of urine, that no further injection could be administered. The gonococci, however, were very few in number. Symptomatic treatment was resorted to, and in a couple of days all difficulty was gone.

August 2d.—There were no gonococci, but on the 3d a few reappeared. The patient was continued on symptomatic treatment till the 15th, when all gonococci had disappeared not to return, and after repeated examinations he was dismissed cured.

This case was of course a failure as far as quick cure is concerned, but nevertheless his disease lasted but eighteen days, which is a much better result than the symptomatic treatment shows.

Case XI.—W. S. C——, aged thirty-four, single. Patient presented himself September 5, 1894. Has had numerous previous attacks of gonorrhœa and gleet, and had stricture, for which he was under my own treatment, but has been perfectly well as far as the urethra was concerned for the last four years, to my own knowledge. Had connection with two different women within the last week, so cannot place the source of infection. Slight discharge and slight smarting. Slide showed pus-cells with gonococci in them, preponderance of epithelial-cells with plentiful gonococci proliferating on the surface. Injection four per cent. silver nitrate solution.

September 6th.—Discharge slight and serous, no gonococci. The cocci did not reappear, and patient discharged after repeated examinations. Case cured in one day.

Case XII.—S. D——, aged twenty-two, single, a very nervous individual, presented himself October 6, 1894. First attack of any venereal disease. Has had discharge and burning two days. Slide shows pus-cells with gonococci, and epithelium, moderately abundant, covered with large colonies of same. The cocci are extremely numerous. Injection with four per cent. solution silver nitrate.

October 7th.—Gonococci few, injection two per cent. solution.

October 8th.—Third injection one per cent. solution. Gonococci very few in number, but discharge not serous, and no blood. Patient complained of pain, and never having had clap before, had no experience of what usually accompanies the acute stage of that disease. He insisted on preferring a slower cure, so treatment was continued on the symptomatic plan. The cocci remained few in number and the discharge small in amount up to the 15th, when the discharge increased and the cocci likewise. At the end of the month the discharge declined. He visited me irregularly, but on December 18th there was no more discharge and absence of gonococci. After repeated examinations he was dismissed cured.

This case was a failure as far as quick cure was concerned, which, to some extent, was the patient's own fault, but it only lasted six weeks, and was certainly not aggravated by the early treatment. The woman, Miss C. U——, from whom the patient contracted his disease, was surprised when informed by him of his state, and immediately consulted a physician, who, she declares, examined her and informed her there was nothing the matter with her. She consented, however, to visit me, and though, on inspection, there was nothing but a slight leucorrhœal discharge, the secretion taken from the urethra and uterus with the sterilized platinum wire revealed abundant gonococci when examined under the microscope. Secretion from Bartholin's glands and vagina, negative. The patient informed me that two of his brothers cohabited with the same person on the same evening, and yet both escaped infection.

Case XIII.—W. B. H——, the same individual as Case IX., presented himself December 12, 1894. Has been perfectly well since he was last under treatment, eight months ago, though he has never evaded the allurements of promiscuous Venuses. Fair amount of muco-purulent discharge and pain. Slide shows abundant pus corpuscles filled with gonococci and fair number of epithelial cells studded with large colonies of the same. Injected four per cent. solution silver nitrate.

December 13th.—Discharge more serous and gonococci very few. Injected two per cent. solution.

December 14th.—Discharge quite serous, only a few pairs of gonococci, injected one per cent. solution.

December 15th.—Discharge sero-sanguinolent. Slide showed pus-cells much reduced in number, blood-cells, a few epithelial-cells, and no trace of cocci. They did not reappear, and patient dismissed after repeated examinations. Case cured in three days.

Case XIV.—W. S. C——, same individual as Case XI., presented himself December 23, 1894. Had been well since last attack, three months and a half ago. Infection four days previously. Slight amount of secretion, and slight pain. Slide showed great numbers of gonococci, free and in the pus-cells, also on the epithelial cells, which were in fair numbers. Injected four per cent solution silver nitrate.

December 24th.—Discharge serous, and contained no gonococci. Repeated examinations showed no more

cocci and rapid disappearance of pus-cells. Case cured in one day.

This case showed some points of interest and many of great suggestiveness, all of which, however, I have not time here to follow up. The man had been partially living for a number of months with one woman, Miss I. O——; but, just before the former occasion of illness, had stepped aside from the path of virtue, and been seduced by the charms of another fair one to whom he ascribed his misfortune. This time, however, there was but one party to blame, and at his solicitation she consented to visit me. She did so on December 27, 1894, and on examination I found in the vestibule, about a quarter of an inch below the urethra, a swollen para-urethral tubule with a perceptible opening reddened and slightly pouting. On pressing upward upon this through the vagina, about two good-sized drops of pus exuded. This, under the microscope, showed, among large numbers of a great variety of other bacteria, abundant gonococci. There was considerable muco-purulent discharge from the cervix, and this likewise revealed unmistakable gonococci free and in the cells. Secretion from the urethra and Bartholin's glands negative. Not having time to examine the slides at the moment, I requested her to call the next day. This she did, in company with the young man. She informed me, that, in the meantime, she had been to consult a physician who could tell by examination at once if there were anything the matter with a person, which every physician ought to be able to do, and he had assured her there was nothing wrong. I replied that my capacity did not go so far, but I was nevertheless sorry to inform her that she was suffering with gonorrhœal disease. A few days later, however, she concluded to call for treatment. I had no difficulty in destroying the source of infection in the vestibule, by running down to its bottom a probe on which I had fused some silver nitrate. After a few applications to the uterus, I found such treatment futile, and advised thorough curettement under ether. She agreed, and set the day. Consulting with some friends, however, she visited a third physician, who, on examination, informed her there was nothing the matter with her, but prescribed an alum injection. She, thinking, I presume, that the agreeable opinion of two physicians was better than the disagreeable assertion of one, failed to materialize again. I have heard since that she has had a slight attack of pelvic peritonitis.

Case XV.—J. C——, single, aged thirty-five. Previous attacks of gonorrhœa, but none for five years. Presented himself December 26, 1894. Suspected connection December 21st. This is the third day of pain and discharge, which is purulent and copious. Slide showed great numbers of gonococci free and in the pus-cells, blood-cells, and few epithelial cells bare of colonies. Injection, four per cent. silver nitrate solution.

December 27th.—Second injection, two per cent. solution.

December 28th.—Discharge more serous, but still purulent, not as many blood-cells, and but very few gonococci. Third injection, one per cent. solution.

December 29th.—Discharge sero-sanguinolent, quite a number of blood-cells, but very few gonococci. Patient complained of a good deal of pain, so symptomatic treatment was directed.

January 3, 1895.—All acute symptoms subsided, but gonococci increased in numbers.

January 11th.—Symptoms slight, but gonococci present in numbers.

January 17th.—Discharge very slight and mucous, and number of gonococci much reduced.

January 24th.—No more symptoms of any kind, no more cocci present. After repeated examinations patient dismissed. Case cured in four weeks. This case is, of course, a failure, as far as quick cure goes; but, the patient recovered at least two weeks before we would have any right to expect it under the symptomatic treatment, and had no complications that could be ascribed to severity of method.

This concludes my list of cases, and they are none of them open to the slightest criticism on the ground of not being true cases of acute gonorrhœa. It seems to me that, from a clinical standpoint, they show as a whole vastly superior results to those obtained from the symptomatic plan of treatment. Let me briefly recapitulate the results. Out of fifteen cases, not selected, but taking them all as they came under treatment, 3 cases were cured in 1 day (Cases I., XI., XIV.), 1 case was cured in 2 days (Case VI.), 3 cases were cured in 3 days (Cases II., III., and XIII.), 1 case was cured in 5 days (Case VII.), 2 cases were cured in 6 days (Cases IV. and IX.), 1 case was cured in 18 days (Case X.), 2 cases were cured in 4 weeks (Cases VIII. and XV.), 1 case was cured in 6 weeks (Case XII.), 1 case was cured in 5 months (Case V.). Ten cases out of 15, or sixty-seven per cent. were cured inside of 6 days, and of these almost fifty per cent. in 3 days; certainly a most favorable showing. The reasons why failure occurred in some of the cases are obvious, but I cannot lengthen my paper by discussing them. I am willing to let the cases go as they stand without further comment.

Conclusions.—I summarize the whole subject-matter briefly as follows: 1. A microscopical examination of the secretion should be made at once in every case of urethral difficulty that comes before us. 2. The symptomatic plan of treatment at present generally recommended requires at least six weeks before cure is established. 3. A quick curative plan of treatment has no tenable scientific grounds against it. 4. A quick curative plan of treatment is shown to be practicable clinically. 5. The *rationale* of this plan shows it to be in harmony with the spontaneous efforts of nature to effect a cure. 6. Nitrate of silver in strong solution is the best remedy. 7. I have adduced fifteen cases, not selected, to show that in two-thirds of them a cure may be effected in from one to six days, and that not in any case did a serious complication or aggravation supervene. 8. That a quick curative treatment may be pursued in most cases that come early enough, with reasonable hope of success.

50 East Sixty-third Street.

Medical Cabinet Officers.—Our esteemed contemporary, the *British Medical Journal*, in a recent issue points out that "the new French cabinet includes two members of the medical profession, Dr. Chautemps, Minister for the Colonies, and Dr. Gadad, Minister of Agriculture. The *Journal* further states that there were "also two members of the medical profession in M. Dupuy's cabinet, namely, Drs. Lourties and Viger." In the United States we recall but a single instance of a medical man serving as a cabinet officer, that of Dr. Oliver Wolcott, of Connecticut, who was appointed Secretary of the Treasury next succeeding Alexander Hamilton, February 3, 1795, General Washington then being President. President Jefferson continued Dr. Wolcott in office, and he held it until May, 1800. It is thus seen that, unlike some of his successors, the Father of his Country had no objection to placing important public interests in the hands of a medical man, although it is only fair to mention that our Dr. Wolcott had served with great distinction in the War of the Revolution and rose to the rank of Brigadier-General. —*Journal of the American Medical Association.*

A Monument to Father Damien, the "apostle to the lepers," has been erected in Louvain, Belgium, where he was born.

Somebody Says, and has put it in print, that more physicians commit suicide than the members of any other of the learned professions.

A CONTRIBUTION TO THE STUDY OF CELLULAR THERAPY, AND THE SIGNIFICANCE AND MANAGEMENT OF FEVER IN CHILDREN.[1]

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THE rapid strides that have marked the pathology of fever have brought before us various theories regarding its origin, its causes, and its significance. The limit of this paper does not permit an account of them. Professor Bouchard, of Paris, says: "The pathology of fever is concerned with what the morbid changes present are, the order in which these occur, and the relationship to one another; on the other hand, the pathogeny reveals the origin and development of fever, and the mode of action of its causes.

As one considers the pathogeny of fever of the most importance, since by its study we may understand how the first changes are brought about to produce the condition known to us as fever, I will state some of the most important factors concerning it. Again, understanding the pathogeny of fever, we can then make use of such remedies as will be rationally directed toward it.

All heat is produced by motion or activity. Be that motion in the plant or in the animal, it is that which constitutes life. The ultimate unit of life is the cell. The latter possesses sufficient individuality to have a life-history of its own. Each cell goes through the same cycle of changes as the whole organism. In health its vital powers are those of growth, nutrition, and reproduction. It accomplishes this through motion, and by the latter it evolves heat. Its movements are modified by certain conditions. Where these are normal we have a natural amount of heat production. However, under certain accidental circumstances, the cell is compelled to act more energetically, and with its increased energy there results an augmented heat production, which in the individual is manifested as fever.

In children we find cellular activity very pronounced. Not only their physical organs, but also their minds are constantly undergoing change and development. Though very active, the cells are not very stabile, and any slight impetus will affect them. As a consequence, children are very apt to get feverish and a higher degree of temperature will more readily be attained in them than in adults.

Now what prompts the cell to its extra activity? It is the principle of self-preservation against its enemies; and what are its enemies? They are the toxins, which, having gained entrance into the circulation, attack the tissues and cells, irritating them and seeking to demolish them. The cells defend themselves. If their strength is reinforced by others, which also are supplied with ammunition, *i.e.*, with a natural antitoxin, there results a struggle for existence which ends in the survival of the fittest. But this combat is not ended until there has been considerable loss, this loss being represented by that cell metabolism and degeneration which results, and which are the pathological changes. The battle has been fought and its amount of energy is represented by the heat generated, which heat is conveniently measured as so much fever. Moreover, this amount is dependent upon not only the quantity and the quality of the toxin, but also the resistance of the cell. Hence, when this resistance, which is dependent upon the stability, is less, as in children, certain toxins have a predilection for them. Consequently the toxins of infectious diseases are peculiarly liable to attack children. When the disease or fever has been absent, aborted, or modified we must attribute the change to the power of resistance in the cell. The "fit soil" of Koch is the one in which this resistance has been weakened.

[1] Read before the Society for Medical Progress of the West Side German Clinic, April 6, 1895.

As long as the activity of the cell is maintained the cell will still respond; but when it has been overstimulated, or rather extremely irritated, it no longer can react. It, as it were, is paralyzed. Exhausted, its energy is gone, its motility leaves it, and heat being less generated, we get what is called a subnormal temperature. This is illustrated in the exhaustive stages of various diseases.

Toxins which find their way into the circulation, so as to affect the cells proper, originate from the products resulting from the life and growth of micro-organisms, from the toxic matters in the air we breathe, the water we drink, and the food we eat, from the processes of fermentation that take place in the alimentary tract (these processes being due to the nutrition and life of organisms which are constantly producing toxins), from the microbes of contagions, of infections, of pyæmia, septicæmia, and the like.

We are constantly surrounded by these enemies, which seek to kill us, and when the cells become irritated by any of these toxins, or by the introduction into the circulation of organic substances, whether normal, or the result of pathological processes, we have fever. The latter has been proven by experiments with either putrid organic substances, or the various alkaloids of these, or fresh organic matter, or extracts from the muscles, spleen, kidney, etc., of healthy individuals, or certain soluble ferments of animal origin, or the products of the breaking down of corpuscles, or the products of bacterial secretion, or the body proteins of bacteria.

Having seen that fever is caused by the activity of the cells, and that the stimulation to extra action is due to their defence from substances which are threatening their stability, we conclude that fever is the result of a conservative action of nature. Consequently, to interfere, as to attempt to subdue it directly, simply for the sake of lowering the temperature, is against the laws of nature. The question, then, is, What shall we do? The answer is, remove the cause, the origin of the fever, remove those foreign substances, the toxins, if you can. Antiseptics, disinfectants, germicides have their value in very many cases. Especially in children, where gastro-intestinal troubles often give rise to increased temperature, they will find their use. But in contagious diseases these will not suffice. Something is wanted which will neutralize the poison, kill the bacillus or other microbe by its own toxin, and rid them from the system; when they disappear the cell will cease its extra activity. What is this powerful something which will do this? It is nuclein, nature's antitoxin, found in the cell, the ultimate unit of the animal organism. To it the cell owes its resisting power. Its action is as follows: If present in sufficient quantities in the cell, the latter offers enough resistance to prevent the micro-organism or its toxin from destroying it. As a consequence, the microbe, from lack of nourishment and from its own toxin, dies. The toxic products are neutralized by the nuclein; the cell now thrives without further molestation. It is the toxin that does the work of destruction; for as soon as the cell has been run down, lost its resistance and consequent immunity, *i.e.*, its sufficient amount of nuclein, it is successfully attacked, and the micro-organism devours its nutritive substance.

Let us illustrate this more fully. The bacillus diphtheriæ enters the tonsils through an abrasion, and is carried into the circulation. The healthy child has been endowed by nature with very strong vital cells, containing an abundance of nuclein. The bacillus gets its nourishment from the normal heat produced by the normal cellular activity, and is surrounded by oxygen and water. It need not attack the cell, therefore, as the food is within easy reach. But it soon secretes the products of its life, the toxins. The latter poisons attack the cells and irritate them, compelling them to protect themselves. As the toxins accumulate, in-

creased activity of the cells, viz., fever, takes place. The cells proliferate, and the circulation is increased in the parts. There is an efflux of the polynuclear white blood-corpuscles. The latter carry more nuclein to the cells, reinforcing them, and enabling all toxins to be neutralized. They also, through the power of nuclein, take hold of the micro-organisms, enveloping and imprisoning them. These micro-organisms, thus deprived of their nutrition, succumb and are carried off. The powerful phagocyte is supplied with enough nuclein to neutralize any remaining toxin. Now, if there is not a sufficient amount of nuclein in the cells and blood-corpuscles, we can see that the story will be reversed; and as the toxins will get the better of the tissues, the fever will continue, and may ultimately lead to death.

Knowing, then, that in fever we have a condition of toxæmia, we, as physicians, must assist nature to overcome this condition. In the contagious diseases, as there is the most danger to life, we should especially help by furnishing additional nuclein to the system. We can accomplish this by injecting the requisite quantity into the circulation. As it commences to act upon the system there is noticed a rise of temperature, due to the stimulation of the cellular activity. This is followed by an abrupt fall; for, as the cells are furnished with additional natural antitoxin, toxæmia is lessened. Removing the poison, it remedies the fever, and the disease is rapidly recovered from. I have used nuclein in contagious fevers. My results in diphtheria, scarlatina, and measles have been excellent. What it promises in other fevers I am not prepared to say, as these are under investigation; but nuclein has certainly a great future. My experience in the clinical study of cellular therapy has been strengthened by the additional observations on many cases in association with Dr. J. Mount Bleyer, of this city, who was the first to advocate nuclein as the defensive proteid in diphtheria. The first convincing experiments in children have been made by us. I propose shortly to report a large clinical study of fever cases in which nuclein has been used, and I must say that its clinical effect corresponds exactly to what I have above stated. So powerful is its action that I have succeeded by introducing it into the system of those exposed to contagion in warding the latter off. This, again, proves that it is *the* antitoxin, and that it is the thing which in reality produces immunity. It has also the power of aborting the disease.

Nuclein is represented chemically as $C_{29}H_{49}P_9O_{22}$. It is very rich in phosphorus, and, microscopically, presents the appearance of cell blastema, receiving carmine and cosine like all cellular substances. Its origin is in the following manner: The absorptive products of digestion are surrendered to the leucocyte; the latter from this nutritive material develops nuclein by the principle resident in the nucleus, nucleolus, etc. The products of the inorganic world are thus vitalized; the leucocyte furnishes nuclein to the various cells of the body.

The details in the administration of nuclein in fever, its doses, its indications, and its contra-indications, will be illustrated by the clinical report referred to above; the reason for such administration will then be manifest.

Before closing this paper you will permit me, gentlemen, to state that the value of the French and German antitoxin in diphtheria is due only to the nuclein which it contains, as it is made from the blood-serum which contains nuclein. Again, animal extracts all contain nuclein, and their action is one of stimulation. All these, when introduced into the circulation, produce fever, as a consequence of causing greater cellular activity. When the substance is an unattenuated toxin, pure and simple, and is introduced into the body, it also stimulates the cell; but by artificially introducing this toxin into the circulation, when toxins are already present, we must still further poison the system. The bad results which often follow the injection of the French and German antitoxin are thus explained; the good results are, fortunately, due to the presence of nuclein, though the scientists who have discovered the antitoxin have based the action on a different theory.

Vaccination does not protect because a poison has been introduced, but because something that will assist the cells to react against the disease has been introduced. Dr. Ferrán did not employ the microbe for his vaccinations; the immunity was produced by the broth into which the microbes had been introduced. Fodor showed that the blood was able to destroy bacilli. Buchner has shown that the injection of any proteid foreign to an animal organism increased the anti-biotic power of the blood. Rumpf obtained distinct therapeutic results in typhoid fever by the injection of the dead bacillus of blue pus. Klein also found many dead bacteria protection against cholera. Buchner, moreover, settled that the direct antidotal action of the antitoxin neither took place in vitreo nor in the animal organism, as has been maintained at first by Behring. The two substances, antitoxin and toxin, existed side by side, and no neutralization occurred. Antitoxin acted as a stimulus to the chemical processes of the cells, and if these cells were enfeebled in any way, their vitality lowered, the stimulation failed to rouse them, and the antitoxin was of no avail. We see, therefore, that antitoxin, like the substances Buchner, Rumpf, and Klein used, acts simply as a stimulant to increase the production of nuclein.

Just as tuberculin has failed because it contains toxins, so will the French and German antitoxin meet with unfavorable results.

That nuclein is the real therapeutic agent in diphtheria is proven by the smaller dose required, by the general condition of the patient being very much more rapidly improved, by the complications being rare, by the immediate lowering of the temperature after the initial rise, by the decrease of pulse-rate, and by the strengthening effect on mind as well as body. It acts similarly in measles and scarlatina, rapidly bringing on the rash and shortening the duration and the course of the disease.

To conclude; natural immunity is caused by enough nuclein in the body; acquired immunity is brought about by causing an increased production of nuclein, and by directly introducing nuclein into the body.

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DIPHTHERIA IN TENEMENTS—SEVEN YEARS' RESULTS.

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As there are almost no definite statistics of infectious diseases treated out of hospitals, I here report my diphtheria cases visited for the Demilt Dispensary.

The patients were seen at their homes (tenements) during seven years, viz., from March, 1888, to April, 1895. This is the same class that furnishes the hospital clientage, poor in physique as well as purse. The total number of patients was 16,498, of whom 177 had diphtheria. Of this number 24 died, giving a mortality of 13.55 per cent.

Lest someone might think that exudative or follicular tonsillitis passed for diphtheria I have also counted all such cases. During the same period there were 551 cases of tonsillitis exclusive of the suppurative form or quinsy. None of these died. To be sure of accuracy I counted the stubs of the death certificates. During five years the diagnosis was clinical only, but during the past two years the diagnosis has usually been confirmed by bacterial culture by the New York Health Board. These cases show diphtheria as it is and has been in unfavorable surroundings; as they occurred during a period of seven years they include several

epidemics. As the treatment varied at times the figures are not distorted by any unconscious prejudice for a particular remedy.

The results are gratifying, but the death-rate can be made to appear lower by the method of elimination adopted by advocates of a recent specific. By omitting 5 cases that died within twenty-four hours, and so were hopeless under any treatment, the mortality will read 10.73 per cent.

Treatment.—During the first three years carbolic acid with lime-water was the usual local remedy. This was used by syringe in the nose and throat of infants, but by atomizer in the older and less refractory children. During the past four years peroxide of hydrogen, diluted one-half with water, has been used exclusively. I have never used bichloride of mercury solution locally or internally that I know of. All cases had a few small doses of calomel at the beginning and tinct. ferri chlorid. subsequently. The first cases were treated with large doses of iron and chlorate of potash. Of late iron only has been given, and that in moderate doses, *e.g.*, ten drops; alcohol was not used at all. One boy was injected with Behring's antitoxin on the second day, on the third day he died.

The cases bear out the common belief that they are less fatal in private practice than in hospital. The average mortality at the Willard Parker Hospital from 1889 to 1892, inclusive, was 23.78 per cent.; for 1893 18 per cent.; for 1894, 27 per cent.

It is a curious fact that only a little more than three hundred patients were treated annually before 1893, but that year the number was 611. In 1894 703 were treated. Diphtheria has undoubtedly been very prevalent during the past year, as the death-rate from this cause was .98 per thousand living. In 1892 the diphtheria rate was .79, which was rather low. The mortality did not advance in proportion to the number of reported cases.

I conclude from these figures that antitoxin gives no better results in a long series of cases than other treatment does. Also that we must still rely upon clinical diagnosis, and only look to bacilli as to a symptom or interesting factor.

THE FIRST SYMPTOM OF PULMONARY TUBERCULOSIS, AND ITS DETECTION BY THE FEVER THERMOMETER.

By CHARLES WILSON INGRAHAM, M.D.,

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Not a day passes but that the fever thermometer gives additional evidence of its being one of the most accurate and scientific diagnostic instruments in both acute and chronic disease at the command of the physician and surgeon, and in the study and treatment of morbid conditions the thermometer daily strengthens the professional confidence reposed in it. Though the thermometer is but a piece of glass containing mercury, yet it diffuses information that sways the opinions of physicians in council, it indicates the best course of treatment to pursue, it decides doubtful points, and brings order and method out of confusion and uncertainty. Without departing in the least from reasonable probabilities, it is safe to say that in the practice of every physician, many lives are annually saved by what the fever thermometer has detected and brought forth for consideration. Fatal complications are averted, and unfavorable changes, particularly in the course of acute diseases, are, by its use, detected sufficiently early to allow of prompt treatment.

We cannot but wonder how our ancestors could have intelligently practised medicine and surgery without the aid of the thermometer. In the majority of doubtful cases, both as regards diagnosis and treatment, they must have been obliged to assume that they were correct, and in arriving at a convincing diagnosis they must of necessity have utilized the power of human intuition.

As a diagnostic instrument, the fever thermometer approaches more nearly the zenith of its perfection and utility in cases of suspected tuberculosis. From close observation in a large number of cases, I feel sustained in the assertion that a rise of temperature of from one-half to one degree at some period of greater or less duration every twenty-four hours, may be regarded as the first symptom of pulmonary tuberculosis. I believe that this rise of temperature, as a rule, occurs previous to every other symptom, and before the general health of the individual is influenced to a noticeable degree. Cough, with or without expectoration, night-sweats, loss of strength and weight, should be classed as secondary symptoms, as should also the appearance of positive physical signs. The only exception to this rule is when tuberculosis follows in the wake of some acute disease without intervening recovery of health. This elevation of temperature need not of necessity occur every day at the first inception of the tubercular infection, and in many cases may not occur more than two or three times a week when the disease is in an "embryonic" state, and at that stage as well as later stages the temperature will be most elevated following bodily fatigue. Excluding other morbid conditions, organic or functional, that would cause a similar elevation of temperature, we are safe to diagnose the case as one of pulmonary (or laryngeal) tuberculosis when this temperature has persisted for a period of two weeks, and is associated with loss of weight and vitality, even though there has been no accompanying cough or expectoration, and though physical examination gives negative results.

At the very beginning of tubercular involvement, with the formation of the first tubercular nodules, a condition indicated by the fever thermometer alone, is the most promising period to successfully treat the disease. At this early stage, incorrectly termed by many as pre-tubercular, the patient raises no infected sputum, which excludes the use of the microscope. At this stage the microscope may even work to the disadvantage and injury of both physician and patient, for the latter may expectorate catarrhal discharge, which even though repeatedly examined will give negative results, on the strength of which the physician assures the patient that his disease is positively non-tubercular, and thus decreases the chances of recovery. Just how long this period of "incubation" may continue without giving microscopical evidence, I do not venture to say, but it undoubtedly extends over a period of weeks and even months, varying in accordance with tissue resistance and extent or intensity of infection.

With no intention of disparaging the value of microscopical examinations as a factor in confirming the diagnosis of pulmonary tuberculosis, and with no intention of upholding clemency to physicians who neglect bacteriological researches in their relations with this disease, I do believe that the fever thermometer, in this stage of "incubation," offers us evidence not obtainable by any other known method, and as a result is more valuable than the microscope. Therefore, with a fever thermometer and a microscope in our possession, and by the intelligent use of the same, we are in a position to render tubercular subjects a most accurate and scientific diagnosis, a diagnosis unequalled in certainty, if, indeed, paralleled.

An individual who, from his depraved or impaired vitality, suspects that a tubercular process is developing in his lungs, submits his case to a physician for a confirmation or dispersion of his fears. The physician, after a careful and thorough examination—physical, symptomatic, and microscopical—finds nothing that gives proof that tuberculosis is developing. Nevertheless, the physician is not justified, before the laws of humanity and his duty to his patient, in deciding posi-

tively that the disease is non-tubercular until he has before him a complete record of the patient's temperature showing no recurring daily elevation for a period of two weeks. The patient should be instructed in the use of the fever thermometer, and should be given a blank chart with marked hours for taking the temperature, preferably at 9 and 11 A.M., and 2, 4, 6, and 8 P.M. An elevation of one-half degree occurring daily at some time during the afternoon or evening (even though it remains elevated for only a short time) for a period of two weeks, should cause a strong suspicion of tuberculosis, even though it is the only indication, and if associated with concurrent objective symptoms, even though there be no distinct physical signs, a diagnosis of incipient tuberculosis can be made with a fair degree of certainty. If the record shows a daily elevation of one degree during a similar period, a positive diagnosis of pulmonary tuberculosis (other diseases excluded) is justifiable, and will in ninety per cent. of cases be confirmed by microscopical examination at a later period. By requiring a temperature record for a period of two weeks, all liabilities of accidental elevation are eliminated, and the patient should be instructed not to carry his exercise or occupation to the extent of physical fatigue during the "temperature test."

The value of the "temperature test" is well illustrated in the following case: A lady recently came to my office and requested an examination of the chest. Because of a recent loss of strength, she believed that she was "going into consumption," as the disease had occurred in other members of her family. She had no cough of any consequence, and no expectoration, had lost little or nothing in weight, and the only reason that sustained her in the belief that she was developing consumption, was the loss of strength and vitality. Inwardly believing that she was not as badly off as she would have me think, I should have been prompted to assure her, without making an examination, that she had nothing to fear from that disease, had she not persistently adhered to her opinion.

I am reluctant to admit, though truth compels me to do so, that I did not make the examination with customary care, and finding a clear vesicular murmur, anteriorly and posteriorly, over the general surface of the lungs, I assured the lady that she was mistaken and that her lungs were in excellent condition. With unpardonable neglect I did not even take the temperature at the time of the examination. (This was before I had established my rules for the "temperature test," and before I realized its full value and importance.)

A short time later the lady returned and politely asked if it was not possible that I had overlooked some points of her case, saying that she was not as well as the week previous, and requested another examination, as she was not satisfied with my decision. Remembering my oversight of the previous examination, I took the temperature the first thing, and my surprise can be imagined when I found it to be 101.5° F. I then proceeded to give the chest a minute examination, and finally at the apex of the left lung I found a circumscribed area of consolidation, so small as to scarcely extend down to the clavicle. A short time later I was able to obtain a sufficient amount of sputum for microscopical examination, the result of which demonstrated tubercle bacilli in abundance.

It is scarcely necessary to say, that after the above experience no circumstances are too trivial to prevent my taking the temperature in every case that comes under my observation. There are, however, many unfortunate cases where the physician is not at fault. These occur in persons who are ignorant of the dangers that threaten them, or fearing the result, are afraid to have an examination made, and therefore do not bring their case to the notice of their physician until the symptoms are so far advanced that the laity have made the diagnosis.

If, after a perusal of this article, its readers will in their practice attach more importance to the initial symptoms of pulmonary tuberculosis above detailed, the object of the author is accomplished. If there is any doubt whatever about the case, give the patient the benefit of it. The physician's duty to his patient is unfulfilled, and the trust and confidence that the individual reposes in his medical adviser is painfully betrayed if the latter does not dissect and investigate beyond doubt every indication that could possibly lead to a tubercular condition.

HYPNOTISM.

By CHARLES PRENTICE, M.D.,

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I do not propose to enter any denial as to the remarkable phenomena that are exhibited in various hypnotized subjects. These are established and undeniable facts. The entire investigation of the subject of hypnotism has been confined to a study of its effects on the hypnotic subject. Prevailing through all of this has been the general superstitious idea that some mysterious force passed from the operator to the person operated upon, or from the stronger to the weaker mind, while there has been little or no effort in the direction of determining what the actual physical causes were that brought about these results. The easiest subject for hypnotism is the neurasthenic, whose general supply of vital force for various functions is very limited. Like a dynamo, the nerve-centres are capable of generating a given amount of vital force. In persons suffering from nervous debility their resources of nerve-force are restricted, and there is not sufficient to carry on with vigor the various functions throughout the animal economy. We must remember that thought or ideation, of whatever nature it may be, is a process that requires nerve-impulse for its performance, also that a pain consists of an abnormal nerve-impulse.

Suggestion that gives rise to the so-called hypnotic, psychologic or mesmeric condition may act through the medium of anyone or a combination of any of the five senses. If a person in possession of a valuable treasure was to enter an isolated house at night which he had every reason to believe was unoccupied by any other person, and while slowly feeling his way in the dark, from room to room, a hand was to be suddenly placed on his shoulder, a radical change would at once take place in his nerve-centres, varying in different individuals according to their conditions and surroundings.

If a person who was familiar with the taste of various poisons was to enter a dimly lighted apothecary shop and carelessly swallow a dose of something supposed to be a sweet cough-mixture, and the dose suddenly proved to be intensely bitter, he might at the time think he had taken a dose of strychnine and a change in the action of the nerve-centres would take place commensurate with the condition of the person and his surroundings. I have known such an accident to produce complete prostration, but when it was learned that the bitter dose was quinine, the recovery was rapid.

The smell of smoke in a high building difficult of egress might suggest the idea of a horrible death by fire, and varying conditions would result in the nervous system of the person so frightened.

Through the medium of the sense of hearing very potent changes in the nervous system are brought about. One Sabbath morning, many years ago, I was sitting on a veranda of a hotel in the South, when suddenly I heard a most terrific and unnatural sound, the building trembled violently, the air seemed dense and oppressive. For the moment I was helpless, I could

not think, I could not move; the horrible, weird strangeness of the sound had suspended my functions of volition and reason. The time was but a moment, but it seemed many to me; then, falling by me to the ground below, was the mutilated form of a man. This recalled me somewhat to my senses. There has been an explosion.

Remarkable changes are aroused in the nerve-centres through the medium of vision; intense feelings of pleasure, pain, or fear are induced by suggestion through this medium. The lover of nature is hypnotized through this medium as he looks upon some strangely grand or beautiful scene; suggestion from the inanimate surroundings has influenced the action of his nerve-centres.

Complete prostration, and often unconsciousness, are induced by something that is seen. The changes that are wrought in the nervous system by the strange and fantastic passes or movements that are made by the so-called mesmerist, hypnotist, or psychologist are no more due to a force or entity that passes from the operator to the subject, or from the stronger to the weaker mind, than that the similar mental conditions mentioned above are due to the transferrence of a like or similar entity or force. Inasmuch as a similar influence is brought out by inanimate surroundings, it demonstrates that there need be no transmission of a force to produce the hypnotic state. The influence, and resulting interesting and amusing phenomena that are induced by suggestion are commensurate with the condition of the nervous system of the subject.

After the suggestion all the changes or phenomena that take place in the subject are due to the action of forces in the nerve-centres of the subject. A belief that there is some mysterious force sent out by the operator or the stronger mind is a very foolish and dangerous one, for persons so believing are made easy subjects, and victims of persons of evil design.

When the imagination is sufficiently excited by suggestion there is so excessive a call upon the nerve-centres for vital force to sustain the exalted ideation that all other functions for the time being are robbed of the limited vital impulse that they were previously supplied with. The nerve-impulses that gave rise to the functions of feeling, motion, and reason are perverted, and where pain existed the abnormal impulse that gave rise to the feeling of pain has been turned aside and utilized in the strong imagination that has been awakened. The subject is utilizing all its feeble vital forces to maintain an excited mental condition that has been aroused by suggestion, which may be by the word of mouth, motion, general surroundings, or exciting events. Where pain is relieved by hypnotism it is because the impulse that gave rise to it has been perverted into this new channel. Where the function of feeling is suspended, it is because the vital forces have been so drawn upon that there is not sufficient left to give rise to the function of feeling. Where the reasoning faculties are so perverted that one can be made to believe, and apparently see, things as they are not, it is because the excitation has so utilized the vital forces that there is not sufficient left to assert reason, and whatever is suggested is accepted as truth. Hypnotism or suggestion is the diversion into other channels of those nerve-impulses that give rise to feeling, motion, or reason; they are turned aside from the performance of normal functions to execute another kind of work.

It is on this principle that a mustard-plaster or counter-irritant acts; it turns aside the nerve-impulses that give rise to pain, and utilizes them in the secondary or induced irritation.

"Some ideas are suggested to the mind by all the ways of sensation and reflection" (Locke).

"Suggest: To introduce indirectly to the thoughts; to cause to be thought of, usually by the agency of other objects" (Webster).

When a person steps upon a tack it suggests thoughts, and sometimes words, that are very emphatic; the savory smell of a broiling mutton-chop will often suggest hunger; the whistle of a locomotive suggests that more haste will have to be made or the train missed; whenever I hear a certain piece of music it suggests to me the lovely Jepsom Gardens and the Holly Walk at Leaming, on the River Leam, for it was there that I first heard this music; the taste of some delicious viand often suggests some other time and scene where this flavor awakened a more than ordinary appreciation: seeing another put on his gloves and hat might suggest to a man that it was time to go home. Suggestion, in its fullest sense, is susceptible of a very broad definition.

The word hypnotism, of Greek derivation, meaning sleep, is at present used in almost as broad a sense as the word suggestion, as many of the mental states that result from suggestion are denominated hypnotic. The average mind is quite as open to suggestion in the present day as it has been in all ages past. It is not capable of reasoning for itself. It generally follows out certain lines of action because they are conventional or have been suggested by others. A collegiate training is valuable to those minds capable of receiving it, for it imbues them with formulated methods of analysis and action, which methods are the results of reasoning minds that have thought for the benefit of others. What is called original thought comes to but few. "The power of stepping out of the beaten track of thought, of bursting, by a happy inspiration, through the bonds of habit and originating a new line of reflection, is most rare, and should be welcomed in spite of its sometimes becoming extravagant."

At present the people in several sections of our great republic are running wild over the question of hypnotism. Many of these unthinking minds have been led to believe that whenever a buffoon raises his hands and makes certain meaningless motions that they are bound to become helpless and follow whatever suggestions are made. Excessive fear and awe are the results of this belief, and an exalted excitation of the nerve-centres results which may actually produce what is called the hypnotic state, but where this belief does not exist, and where there is an unbelief as to this mysterious force, however weak the subject may be, these methods fail to hypnotize.

I remember a mesmerist who, several years ago, was lecturing in a small town in Ohio. He had succeeded in exciting quite a large number of the community. The audience of his nightly lectures grew until the opera-house would barely hold them. He was very much reassured by his success and invited the opinion of any member of his audience. A professional gentleman walked to the rostrum, and set forth, in a very clear and concise manner, opinions similar to those in this article. From that time his so-called hypnotic power ceased, and of the ten objects on the stage who had been obeying his suggestions, there were but two who continued to do so. These were strangers to the community, and I afterward learned from one of them that they were both under his pay at a salary of $15 per week. It is not necessary for a hypnotist to resort to this trickery, for if a firm belief in the mysterious force exists in persons of weak nervous system, they can undoubtedly be hypnotized. It is now high time for thinking professional men to come to the assistance of the unthinking masses and teach them that it is as unnecessary to yield up reason and thought to the gyration of the hypnotist's arms, as it is to the whirling of a merry-go-round.

But recently one of our courts has acquitted a murderer on the grounds that he was hypnotized. Other murderers are already taking advantage of the precedent and endeavoring to escape the penalty of their heinous crimes by assuming that they were hypnotized. In all ages of history crime has been committed.

There have been arch-conspirators who suggested to their followers criminal acts. In all of our ancient, mediæval, and modern literature, in all the records of criminal law, we can see that there were arch-conspirators and their followers; people who suggested crime and those who committed it, and whenever any of these were convicted they were punished according to law. The fad of hypnotism had not been born, and they were suffered to die for their murders. Has it been an injustice to murderers in all the ages of the past that they have been allowed to die on the scaffold and by the guillotine because they did not possess the broad definition of a word from the Greek language meaning sleep?

We act upon good or bad suggestion according to our training. A man looks in through the windows of a bank, sees a large stack of bills and gold; it suggests to him that if he could break into the place at night, and open the vault, it would bring him ease and comfort. He follows the suggestion and commits the burglary. Should he be exonerated because he was hypnotized by inanimate things? Another sees a man put a large bundle of bills into his pocket and start for his home in the distance. It suggests to him that he could rap him on the head with a club and appropriate the money for his own use, and he does so. Suggestion has hypnotized him to do the act. A lady and a gentleman become acquainted; the conversation and manners of the gentleman suggest to her that he would make a good husband; circumstances culminate and they are married. Later a quarrel follows, and then it occurs to the woman that she was hypnotized and forced to marry. Should she be granted a divorce on these grounds? Truly so, if a murderer is cleared.

Horses are almost universally hypnotized when a barn takes fire. Invariably they will not leave their stalls. It has always been their place for food, drink, and rest. In their thoughts it is most safe and comfortable of all. Under the exalted excitement of the nerve-centres of the animal all their other instincts vanish.

I have a number of chickens which were hatched last spring and had never seen the snow until this winter. On a Friday evening one perched itself on an elevated portion of the hen-house. During the night a heavy snow fell. On the following Tuesday evening, my neighbor came in to tell me that there was a hen standing on top of my hen-house and that it had been standing there for four days. At least every time anybody looked out of the window the hen was seen standing in the same position, and they concluded she must have been standing there all this time. I became interested and at once went into the back yard and crawled on to the roof. I approached the hen; she paid not the slightest attention to my presence; she seemed perfectly unconscious to all surroundings. As I put out my hands toward her, she did not move, but after I seized her she at once began to squawk, even before I had said, "Right, right, you're all right now."

In looking from a high tower or precipice the feeling that comes over some people is cognate to hypnotism. Wonder, awe, and fear so utilize the vital forces that reasoning and self-control are temporarily gone. The many so-called suicides committed by jumping into Niagara Falls, or from high towers, are acts committed in the hypnotic state; at least I believe a great mistake is made in indiscriminately calling such acts suicide. It is a notable fact that all high towers have to be protected so that people cannot jump from them. The Washington Tower, the Fire Tower at London, the Eiffel Tower, the dome at the Capitol of Washington, and many others have had wire net-work or other apparatus put up to prevent persons from jumping from them. I think it is a grave injustice to call all such acts suicide.

It is a possible mistake to allow the word hypnotism to assume as broad an application as is now popular. In this sense every speaker, every preacher, is a hypnotist. Each suggests his good thoughts from the pulpit or the rostrum and endeavors thereby to influence his hearers. The successful jurist by rhetoric, oratory, earnestness, and gestures hypnotizes the jurymen until tears mark the result. Every business man and solicitor utilizes, to his utmost, suggestion for the sake of influencing his customers.

What I wish to point out in this article is that there need be no transferrence of a mysterious force from the operator to the subject to bring on hypnotic states, inasmuch as inanimate surroundings are adequate to produce a similar effect.

Considered in the line of the above hypothesis it is an easy matter to account for the changes that take place in so-called faith-cures. It is probably a fact that many deranged functions have been restored to a more normal action through an effect in the nerve-centres brought about by suggestion in the form of Christian science, hypnotism, or faith-cure.

We are fully aware that fright is often the exciting cause of deranging the nerve-centres to the extent of disturbing some important function. Fright has also been known to restore to normal action a disturbed function. In aphonia, which is of frequent occurrence in certain individuals suffering from nervous debility, the power of speech has often been restored by approaching the patient unobserved and suddenly making a loud sound close to the ear, causing fright. But recently I heard of what seemed to be a well authenticated case of a deaf girl being restored to hearing in a similar manner. A severe thunderbolt struck the house she was in, rendering several of the occupants partially insensible, immediately after which the little girl said, "Come, mother, let us go home, I can hear now."

This switching or transferrence of nerve-impulse may possess some value in scientific hands, but in no way does it fulfil the requirements of enfeebled or insufficient nerve-centres. The true end to be sought is a vigor and equilibrium of action in all the nerve-centres, from which all functions will receive a normal share of nerve-impulse for their performance; a condition which is hardly to be expected through suggestion or faith alone. A fair average of success in this direction is illustrated in Walter Scott's "Waverley," where the Scotchman tried to teach his mule to do without food. He gradually reduced the poor animal's feed until he ate but one straw a day, when he died, otherwise the experiment would have been a success.

In conclusion, I will repeat that hypnotism or suggestion is the diversion into other channels of those impulses that give rise to feeling, motion, and reason. They are turned aside from the performance of their normal functions to execute another kind of work.

905 Pullman Building.

He Probably Pays for Medical Services.—A clergyman of Columbus, O., recently returned a clerical pass which a railroad company sent him, with the following explanation: "I never use clerical tickets, because I know no reason why clergymen should have privileges not granted to the mechanics and laboring men, and because I am not satisfied that railways have any right to grant the favor to anybody."

A New Form of Medical Sweating.—The organizer of one of the many "personally conducted" trips to the Holy Land, has issued a circular in which he makes the munificent offer of a reduction of twenty-five per cent. to any medical man who will accompany the party and treat its members free of cost. An English journal estimates, from the cost of the excursion and the length of the trip, that this is equivalent to a salary of $10 a week.

Progress of Medical Science.

The Operative Treatment of Gastric Ulcer.—Dr. Küster not long ago recorded a case of ulcer of the stomach in which surgical interference was followed by recovery. He now reports a second case of gastric ulcer successfully treated by incision of the stomach, thermic cauterization, and gastro-enterostomy. The former case was reported to the last Congress of German Surgeons. The subject of the present record was an emaciated man, aged forty-two, who for six years had suffered from frequent attacks of pain in the stomach and of vomiting. In the spring of last year the vomited matter and also the stools were deeply stained with blood. The stomach for some months before the patient came under the author's notice had been much dilated. On June 27th the stomach was exposed by an incision made in the middle line of the abdominal wall above the navel. An ulcer could be felt in the posterior wall of the viscus near the pylorus. An incision having been made through the anterior wall of the much-dilated stomach, parallel with the greater curvature, the cut edges were widely separated, and the thermo-cautery applied to the surface of the ulcer, which was about the size of a one-cent piece. Communication was next established between the stomach and jejunum. The progress toward recovery was much disturbed by frequent distention of the stomach by abundant yellow fluid, for the removal of which it was found necessary to wash out the organ very frequently in the course of the first five days following that of the operation. Besides this hindrance, large accumulation of blood and serum in the external wound rendered it necessary to remove some of the external sutures and to separate the edges. The patient, when discharged at the end of six weeks, was free from pain in the stomach, and able to take both solid and fluid food without discomfort. Two months later he was still in good health, and had increased considerably in weight.

The Urine in Chronic Arsenical Poisoning.—Dr. Hills records the results of 260 analyses of urine for arsenic, representing 180 cases. Of these, in 135, or seventy-five per cent., arsenic was found; but it is not claimed that in all these cases there were symptoms of arsenical poisoning; in many cases, Hills says, that doubtless the presence of arsenic was a mere coincidence. He is convinced that there are sources of accidental poisoning which have hitherto escaped observation. The discovery of the coexistence of copper in one case—it was not looked for in others—suggests Paris green as one such source sometimes, and presumably in some article of food. He points out, however, that it is possible that in the free use of Paris green in the garden and field we have a hitherto unrecognized source of poisoning; the soil in many localities is, doubtless, impregnated with the poison. Another possible source is coal; and, if arsenic is a constituent of coal, there can be no doubt that it must be liberated during the process of combustion. The suggestion has also been made that illuminating gas might contain some arsenic, and Hills strongly recommends further investigation in both these directions as likely to lead to important results. The quantity of arsenic eliminated daily by the kidneys is very small, as a rule less than 0.01 milligr. per litre of urine; it is not surprising, therefore, that the time required for its elimination should be great; in several of his own cases about eighty days elapsed before the arsenic had completely disappeared from the urine. Among the more important complications of this form of poisoning is albuminuria, with hyperæmia of the kidney; his attention was not directed to this point in the early stages of his investigation, but in 70 cases a complete chemical and microscopical examination of the urine was made, with the result that in 23 there was no renal complication, while in 47 there was evidence of renal hyperæmia. Hills concludes from his own observation that when the system has absorbed such an amount of arsenic that the quantity eliminated with the urine daily is relatively large (0.03 to 0.05 milligr. per litre) there appear, sooner or later, evidences of renal hyperæmia, and that the kidneys are not apparently, as a rule, susceptible to arsenic, when the latter is present in the urine in quantities below 0.02 milligr. per litre. In the discussion which followed the reading of the paper, E. S. Wood confirmed the views of the author from his own experience in several important particulars, and gave two instances in which the hot air coming from the furnace and the coal-dust of the furnace were found to be highly charged with arsenic, a statement confirmed by the next speaker, Davenport, who instanced as other sources of arsenic-poisoning the ordinary silk coat-sleeve lining, the ordinary brown paper carpet lining, and the common black cambric furniture lining; in fact, according to him, the sources of arsenic were almost innumerable, and he wondered that poisoning was not more common. Putnam dealt with the subject from the clinical side, and threw out the suggestion that in paralysis from neuritis owing to this cause treatment by arsenic might be beneficial. Bolles narrated very fully the case of a child whose urine had almost without intermission during five years contained arsenic, notwithstanding the most strenuous efforts to remove him from every possible source of the poison. Considering the rarity of domestic poisoning by arsenic in this country at the present time, we cannot but feel that in the furnace, as the chief distinguishing feature in the home life of the two countries, a very real source of the danger has been found.—*The Boston Medical and Surgical Journal.*

Suture of Ruptured Uterus per Vaginam.—Dr. Cholmogoroff, in a bad case of rupture of the uterus, where the laceration was situated low down, succeeded in effecting suture from below (*The British Medical Journal*). The breech had presented; it was drawn down, then the after-coming head had to be perforated through the hard palate. Expression proved useless for expelling the placenta; the hand was introduced into the uterus and a transverse laceration was detected, four inches long, an inch above the external os. The placenta was found lying amid intestine, and was extracted. Cholmogoroff feared to perform laparotomy; the labor had not been conducted antiseptically, and he believed in Mikulicz's iodoform gauze tamponade. He washed out the peritoneal cavity by means of a long glass tube with a warm two per cent. solution of boracic acid. Then he steadied the cervix with four volsella forceps, and introduced sutures into the edges of the laceration. The serous coat was included. One end of the wound was left open, and the end of a long strip of iodoform gauze passed through it into the abdominal cavity. The opening was long enough to admit two fingers. The bleeding then ceased. The uterine cavity and vagina were packed with iodoform gauze, and the ends of the ten sutures wrapped in gauze. On the fourth day the tampons were removed, but the strip of gauze entering the peritoneal cavity was left alone; the vagina was again packed. The gauze was removed from the peritoneal cavity on the eighth day. On the tenth day there was a rigor, due to inflammation of the left breast, an abscess formed and gave trouble. The sutures were removed, and it was found that the laceration had united by first intention. Cholmogoroff considers this practice good surgery, as the laceration is closed and antisepsis insured by drainage. Suture of a uterine laceration is only practicable from the vaginal side when the rent lies below the contraction ring. This position is, however, the most frequent after labor.

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THE USE OF OPIUM.

THE recent Report to Parliament of the Royal Opium Commission commending the use of the drug in India, while it may tell the truth, will, we fear, for a time, do a very great deal of harm. India gets a large part of her revenues from opium, hence its government is naturally suspected of having somewhat biassed views on the subject. In response to a demand from the Anti-Opium League, a Commission was appointed some time ago to take testimony on the matter and draw up a report. In the course of its labors, over seven hundred and twenty witnesses were examined by the Commission, including one hundred and fifty-two called at the desire of the Anti-Opium Society. Every care, we are told, was taken to obtain representative testimony, and the Commission record their conviction that the evidence forms sufficient trustworthy ground for the conclusions reached.

The report states that one hundred and sixty-one medical men were examined, and that their testimony was practically unanimous to the effect that "the temperate use of opium in India should be viewed in the same light as the temperate use of alcohol in England. Opium is harmful, harmless, or even beneficial, according to the measure and discretion with which it is used."

The natives of India, on the whole, are said to agree with the doctors. It is universally allowed that the excessive consumption of opium is an evil, though an evil of which the effects have been grossly exaggerated.

The report adds that opium is largely taken as a stimulant by those past middle age. They use it, in the striking phrase of one of the witnesses, "as a prop to a falling house." In the opinion of the great majority of native medical practitioners and representatives of large, influential classes, this employment of the drug is attended by beneficial results. Opium eaters of fifteen to twenty years' standing appeared before the Commission. They believed the habit had done them good. Their appearance and vigor satisfied the Commissioners, at all events, that it had done them no perceptible harm.

Opium is also used as an occasional stimulant in physical emergencies. It has been issued, by medical advice, to troops engaged in fighting and road-making among the mountains of Sikkim. It is taken occasionally by camel drivers who work in the extremes of heat and cold that prevail in the Rajputana Desert. Many consumers in the Punjab use the drug in the winter months only.

There can be, we presume, no disputing the conclusions above given so far as the Indian race is concerned. Even here, however, the question whether the race would not, on the whole, be better if no opium were used, is not answered.

So far as Caucasians are concerned we cannot too emphatically assert that the Commission's conclusions do not apply at all. The use of opium is a distinct evil. Its moderate use is impossible; there are practically no temperate opium users. The opium eater always wants more and continues to want more until he is physically and mentally a wreck.

MILK AND TYPHOID FEVER.

THE present epidemic of typhoid fever in Stamford, Conn., due to infected milk, is another strikingly corroborative demonstration of the value of careful examination into the relations of cause and effect in suspicious cases. The truth of this has been proved so often, especially in regard to milk-supply in its relations to the spread of the fever in given localities, that there is no doubt of its impressive vindication. While the history of the typhoid epidemic of Montclair, N. J., is still fresh in our minds, we find a repetition of parallel experiences, based on the investigations of the Stamford Health Officer. In both instances the milk-supply was traced to one source of infection. One milkman is seemingly accountable for all the damage done. Health Officer Hexamer, as soon as the fever assumed an epidemic form, instituted a system of inspection which promptly cleared up an apparent mystery and confirmed well-grounded apprehensions.

He marked on a map of Stamford, in red ink, the infected houses, and in black ink the routes of the milk dealers. In all but five cases, the infected houses were on the streets supplied by one milkman. Dr. C. A. Lindsley, Secretary of the State Board of Health, and Dr. Herbert E. Smith, of New Haven, were summoned to Stamford by Dr. Hexamer.

It was found that the milkman's barns were in the rear of his lot, and surrounded on all sides by dwellings and outbuildings. His tank for cooling milk was in the northwestern corner of a barn. This was fed by a pump drawing water from a well 12½ feet deep and filled with water to within 1½ foot of the surface. West of the pump were two outhouses, one 20 feet and the other 15 feet, each above the level of the bottom of the well. The slope of the land was toward the east, and the drainage from the outhouses led directly toward the pump. The ground was clay, covered with gravel, with surface soil above.

The well-water was examined by Dr. T. Mitchell Prudden, of this city, and found to be swarming with bacteria. Water taken from two wells to the west of that water-supply and one to the south were found to be contaminated, and the wells were ordered to be closed.

It is believed that the typhoid-fever germs were first brought to this neighborhood by the Italians in the em-

ploy of the New York, New Haven & Hartford Railroad.

During the past few weeks they have been at work in the section of the town in which the milkman's dairy is situated. There has been sickness among them, and the disease can be traced almost directly to their camp.

The cases under treatment are fortunately of a mild type, and it is believed that the epidemic is now virtually checked.

Dr. Hexamer, in an elaborate report on the subject, very properly recommends that a milk inspector be added to the Health Department. Indeed such an official should be connected with every health board in the country.

THE PUNISHMENT FOR SEXUAL CRIMES.

IGNORING the refinements of pornographic alienists, English law recognizes only three forms of sexual perversion—tribadism, sodomy, and bestiality. The first term is applied to sexual relations between women; sodomy is the name for the same kind of vice occurring in men. When the criminals are man and boy, it is called pæderasty; and so far as one can judge it is the discovery of this latter form of vice that has occasioned such an excitement in England. In old times, says Tidy, sodomy was in most countries punishable with death. The English law is now less severe, and the criminal is liable to penal servitude for life or for any term not less than ten years.

THE TREATMENT OF PNEUMONIA.

IN an article on the treatment of pneumonia (*Therapeutic Gazette*) Dr. Hobart A. Hare asserts that in the early and hyperæmic stage, quinine and veratrum viride possess practical value. After exudation has taken place, the three sheet-anchors of treatment are, digitalis, strychnine, and belladonna. Of these three he thinks that strychnine is the only one which one can use alone with advantage. The digitalis nearly always fails to stimulate the vaso-motor system sufficiently, and the belladonna has to be added to regulate the blood-flow by its vascular action. "Often, when using digitalis in pneumonia, the finger upon the pulse shows it to be full, but soft and boggy, if such a term may be used; and while the regularity and slowness, as well as the volume, may indicate the full action of digitalis, the patient fails to receive benefit and may have a leaky skin. Under these circumstances, belladonna given in the dose of about five drops of the tincture every three or four hours, while the digitalis is given in ten-drop doses every six or eight hours, will produce marked improvement. The strychnine finds its great value as a whip to the entire system—as a whip which will pull the patient out of collapse or syncope, or overcome the peculiar torpor which is so dangerous a symptom in this disease, indicating, as it does, that the CO_2 is accumulating in the blood, or that the poison of the disease is obtunding the nerve-centres. Particularly are strychnine and belladonna useful about the time of crisis, when the rapid fall of temperature takes away the stimulating effect of the heat and produces collapse."

A case is cited in which hypodermic injections of gr. $\frac{1}{60}$ strychnine and gr. $\frac{1}{120}$ of atropia every fifteen minutes for three doses brought the patient out of a critical state.

This treatment of pneumonia by veratrum viride, digitalis, strychnia, and atropine, is a good deal in harmony with the so-called dosimetric treatment with digitaline, aconitine, and strychnia, a method that was much in vogue in the hospitals of New York for a few seasons, but which now we believe is not much practised. Dr. Hare seems to attach little importance to the hydrotherapeutic treatment which in some cases proved itself most efficient.

ANTI-ASPHYXIATION ASSOCIATION.

IT so frequently happens that the news columns of the daily press contain accounts of deaths from illuminating gas under circumstances which scarcely admit of the usual theory of suicide, that we wonder no one has before this urged the necessity of a regular inspection of gas-burners in all hotels, lodging and boarding-houses.

The letter from a subscriber, printed under "Correspondence" in this issue of the RECORD, draws attention to a source of danger which surely should be investigated, and, if found to exist, receive correction.

News of the Week.

Death of Professor Karl Ludwig.—A cablegram announces the death, on April 27th, of Professor Karl Ludwig, the eminent physiologist, in Leipsic, Saxony, at the age of seventy-nine. Among the last words his friends heard him say were: "I am satisfied with my life's work and am glad to die." Karl Ludwig was born December 23, 1816, in Witzenhausen. He studied medicine in Marburg and Erlangen, and secured the degree of M.D. in 1839. He was elected Demonstrator of Anatomy in Marburg in 1841, and in 1846 was made Professor of Anatomy. He was called to the post of Professor of Anatomy and Physiology at Zurich in 1849, and in 1855 he became Professor of Physiology in Vienna, Austria. He left Vienna in 1865 to take charge of the Chair of Physiology in Leipsic, Saxony, which office he retained until his death. Professor Ludwig was conceded to be one of the foremost physiologists in the world, ranking with Claude Bernard. It is said that nearly half the physiology known is due to him and his pupils. He invented the kynographic method for the study of blood-pressure. Among his noted publications are "The Gas of the Blood," written in 1869; also "The Structural Conditions of the Heart, the Liver, the Kidneys, and other Internal Organs," and "The Secretion of the Kidneys."

A Bill making Insanity of five years' duration a legal ground for divorce was recently introduced into the Illinois State Legislature, but was promptly defeated.

An East-side Medical Society.—A large number of physicians in the lower part of the city have organized a new society to be known as the Eastern Medical Society. In its platform the society denounces organizations giving free aid to the poor without discrimination.

The Regulation of Medical Practice in Maine.—An act to regulate the Practice of Medicine and Surgery has been passed by the Maine Legislature. The bill received the approval and support of the Maine Academy of Medicine, and its passage was largely due to the character and influence of prominent members of the Academy. In the judgment of the *Journal of Medicine and Science*, the organ of the Academy, the bill is not an ideal one, but is a better one than the first passed by most States and Territories. The passage of this law alone is a most successful result of organized action on the part of medical men; and the Maine Academy may well be proud of such marked success so early in its career.—*Boston Medical and Surgical Journal.*

The Cycle as an Ambulance Carriage.—A new ambulance carriage has been invented by Dr. Hönig, of Berlin. It is not drawn by horses or men in the ordinary way, but is propelled by cyclists, and consists of a kind of litter resting on a frame with five wheels, three in front in the form of an ordinary tricycle, and two at the back. The drivers accordingly sit one at each end of the litter, which is covered by a removable roof with little windows and a pneumatic bell, so that the patient can communicate with the drivers. Beneath the litter are boxes for dressing materials, instruments for first aid, etc. Dr. Hönig suggests that his invention would be useful in small towns for which a horse ambulance is too expensive. It brings the surgeon and his assistant very quickly to the scene of an accident, and enables them to remove the patient to the hospital without loss of time. The general opinion here is that the new system will require a greater proficiency in the art of cycling than the majority of medical men possess. The carriage was shown in the drill-ground of the fire brigade to surgeons attached to hospitals and the police, as well as to officers of police and the fire brigades, and to other gentlemen connected with the ambulance service.—*Lancet.*

"Kissing the Book."—The Legislature of Pennsylvania has decreed that the oath on the Bible shall be dispensed with. The Governor of the State has indicated that he will approve of the enactments to that end.

A New Morgue for Paris.—It is announced that Paris is to have a new morgue. The historical building will still remain, but a vaster construction will be devoted to the frozen museum of bodies that are now hidden away in drawers. Dr. Bertillon is of opinion that the possibility of identifying corpses ought to be extended over three months. The site of the new morgue is not yet settled.

Medical Legislation in Kansas.—The Kansas Medical Practice Bill was defeated chiefly through the influence of the Populists. In the House, according to the *Kansas Medical Journal*, Mr. Winters, a Populist member, said: "We Western people can't support your plug-hat doctors. We've got a lot of old women who are better than any of them."

Portraits of Medical Men.—The meetings of the American Medical Association have of late been attended with a generous display of pictures of medical men in the daily prints. To those who think this is highly improper the following note from *The Provincial Medical Journal* will prove a comfort. The *Journal* says: "We must confess we have not very much sympathy with the *ultra purism* which condemns such a publication as the issue of *St. Paul's* [an illustrated popular journal]. The lay public are familiar with the features of our leading public men—our statesmen, our writers, our lawyers—through the lay press; why should they not also be made familiar with the features of those who are doing better work? We may take it as an axiom that when a man has arrived at the stage that his portrait is selected for publication in such a paper as *St. Paul's*, an advertisement is not needed by him."

Meetings of State and National Medical Societies in May.—The following medical societies hold their annual meetings during the present month: Missouri State Medical Association, May 21, at Hannibal, Mo. National Association of Railway Surgeons, May 1–3, at Chicago, Ill. Nebraska State Medical Society, May 21, 22, 23, at Grand Island, Neb. New Hampshire Medical Society, May 30 and 31, at Concord, N. H. American Pediatric Society, May 27–29, at Hot Springs, Va. Arkansas Medical Society, May 1, at Little Rock, Ark. Army and Navy Medical Association, May 28, at Decatur, Ill. Association of American Physicians, May 28–31, at Washington, D. C. Association of Military Surgeons of the United States, May 21–23, at Buffalo, N. Y. American Gynecological Society, May 28, at Washington, D. C. American Laryngological Association, May 28, at Rochester, N. Y. American Medical Association, May 7, at Baltimore, Md. Medical Society of the State of North Carolina, May 14–16, at Goldsboro, N. C. Medical Society of the State of Pennsylvania, May 21, at Chambersburg, Pa. American Academy of Medicine, May 4–6, at Baltimore, Md. American Association of Genito-urinary Surgeons, May 28–31, at Niagara Falls, N. Y. Louisiana State Medical Society, May 7, at New Orleans. Ohio State Medical Society, May 15–17, at Columbus, O. Washington State Medical Society at Seattle. Connecticut State Medical Society on May 1, at New Haven.

Society of the German Poliklinik.—The first scientific meeting of the staff of the German Poliklinik was held in their building, 78 Seventh Street, April 16th, Dr. F. N. Lilienthal, acting chairman. Dr. Aronson presented a case of leukæmia; Dr. Freudenthal a case of bulbar paralysis; Dr. Leviseur read a paper on "Mycosis fungoides;" Dr. S. Fischer demonstrated a case of secondary glaucoma with iritis serosa and also dacryæcystoblenorrhœa occurring in the practice of Dr. Henry S. Oppenheimer; Dr. Romm demonstrated a case of paralysis agitans; Dr. L. Fischer demonstrated a new aseptic antitoxine syringe made entirely of glass

with an asbestos fitting; Dr. C. Beck demonstrated a new pocket sterilizer.

The Health Department of the City of New York has passed resolutions to the effect that any inspector or medical officer acting under the board who, when brought officially into contact with a case of infectious disease, interferes directly or indirectly with the attending physician's treatment, or who undertakes medical attendance in a family whose acquaintance he has made in the lines of his official duties, shall be dismissed from the service, unless he has been specifically instructed to perform the acts in question by the board or by a chief of division; also that the sanitary superintendent shall instruct all the medical sanitary inspectors anew as to their specific duties in respect to persons sick with infections disease. At a meeting of the New York County Medical Society, April 21st, a vote of thanks was adopted to the Board of Health for their action in this matter.

"**Medicine**" is the title of a new monthly journal, edited by Dr. Harold N. Moyer and published in Detroit by George S. Davis.

A Hahnemannian Hospital for the Insane is desired by twenty thousand persons of Pennsylvania, who have petitioned the Legislature to that effect.

An Omitted Credit.—We take pleasure in giving credit to the *Medical News* for an item regarding the New York Board of Medical Examiners which appeared in our columns on March 23d. The omission at the time was entirely accidental and unintentional. It is the intention of the MEDICAL RECORD to give full credit to the journals from which it quotes.

The Lepers of Tracadie.—The report of the Dominion Agricultural Department, which has just been issued, states that there are now 21 patients in the lazaretto at Tracadie, New Brunswick. There are 12 males and 9 females in the hospital, 10 of the patients being in the third or final stage. Their ages run from eight to eighty-one years. Only one patient was admitted during the year. There are three lepers in the settlement outside of the lazaretto, but these will be taken in as soon as the new hospital, now in course of construction, is completed.

The Societies for First Aid to the Injured in this city have formed an Alumni Association with E. F. Thurston as President, and Dr. E. L. Partridge as Medical Director, and it has an apartment in the United Charities Building. The association is composed of some students in the course of instruction given by the Society for First Aid to the Injured who have passed examination and received diplomas. President Thurston disclaims any intention of the alumni to trespass on the profits or prerogatives of physicians. All that First Aid students aim at is to be able to render service in emergencies, and this has been done in many cases when "the ambulance was summoned."

Medical Legislation in Minnesota.—The Legislature just adjourned has dealt generously with the medical profession of this State. The Medical Department of the State University received $40,000 for a laboratory building, making a total of $150,000 appropriated for buildings alone in a period of four years. The medical law was likewise amended to require of all graduates of later date than 1898 "attendance upon four courses of medical lectures, in different years, of not less than six months' duration each." The provisions of this amendment will therefore exclude from practice in Minnesota alumni of all schools matriculating students the coming session under the provisions of the three years' curricula. The minimum provisions of the old act required attendance upon "three courses of six months' duration each."

The Cholera is raging again this year at Mecca, and the Sultan has been asked to stop the pilgrimage from India. He has refused to do so owing to the fear of offending the religious prejudices of his subjects. At Kamaran Island, in the Red Sea, where the quarantine station for the Indian pilgrims is situated, there were detained some weeks ago over two thousand persons, among whom there were about twenty deaths a day from cholera. The lazaretto is reported to be in an indescribably filthy condition and the continued spread of the disease among its inmates is attributed to this cause. The last great epidemic in Mecca was during the pilgrimage of 1891, when between eleven thousand and twelve thousand deaths occurred.

The Office of Coroner.—Assembly Bill No. 2123, embodying the theory of the last Constitutional Convention in relation to the abolition of the office of coroner and placing this most important function on a more desirable and dignified basis is now being considered by the Legislature. This bill was drawn by a joint committee of the State Bar Association and the State Medical Society. Under its provisions the District Attorney in each county appoints, for every 40,000 inhabitants, a medico-legal officer, who is charged with the medical aspect of all cases of suspicious deaths occurring in his district. The bill is so drawn as not to affect coroners or coroners' physicians now in office, they continuing on until the term of office for which they have been elected shall have expired.

A German Degree for a Woman.—Miss Grace Chisholm, an Englishwoman, has the honor, we believe, of being the first of her sex to obtain the degree of Ph.D. from a German university, or at least from the University of Göttingen. This the young lady has just done with the express consent and approval of the Prussian Minister of Education, and therefore of the Emperor William II. The latter has hitherto had notions as antiquated as those of Sir Dyce Duckworth concerning the higher education of women, and his consent to the conferring of the doctorate upon Miss Chisholm would seem to imply that he has determined to yield with good grace to the inevitable.

Trouble Getting Surgeons in the Navy.—Places in the medical corps of the navy seem to be no longer in demand, and the greatest difficulty is now experienced in getting young physicians to enter the service. The trouble seems to lie in the dissatisfaction which associations with naval cadets, clerks, and junior officers in the steerage causes the young surgeons, who believe that men of their years and learning should be treated with greater consideration. Physicians, on entering the

navy, have the relative rank of ensigns, and on all large ships are berthed for their first cruise in the steerage. Here they have little opportunity of association with men of their age, and must mess with the youngsters and sleep alongside them in hammocks. Surgeon-General Tryon has endeavored to have the new physicians placed in ward-room messes, but Admiral Ramsay is a stickler for regulations, and insists that all officers, whether of staff or line, shall be messed according to their rank. There are now nine vacancies in the grade of assistant surgeon, and two more will be created this month. Seven of these vacancies have existed for upward of a year, and there seems to be little prospect of filling them in the next few months. While the examination and requirements for admission are exceedingly rigorous, the fact that there are few or no applications indicates that there is no disposition on the part of young physicians to enter the navy.

Addition to Brooklyn Naval Hospital.—Plans have been completed for the addition to the Naval Hospital at Brooklyn. There is available for this work about sixty-nine thousand dollars. The plans contemplate a substantial structure in the form of a wing to the present edifice. The addition will result in enlarged quarters for the sick. There will also be a completely equipped operating-room.

Beware of the Tongue Sandwich.—Dr. C. W. Stiles, of the Agricultural Department, Washington, has written an article "On the Rarity of Tenia Solium in America." Dr. Stiles describes the different kinds of tenia. The tongue of the beef is a favorite place for these parasites to collect, and those who are fond of beef-tongue sandwiches run considerable risk.

The German Otological Society meets this year in Jena, June 1st and 2d.

Telephone Rates' Bill in the New York Legislature.—The physicians of New York, to whom the use of the telephone has grown to the height of a necessity, have exhibited unwonted interest in this year's campaign against existing extortionate rates. The bill against the companies, as originally introduced, fixed the rates at $78 and $66 respectively. These rates have since been increased to $125 and $85 respectively. Moreover, a six months' continuance of the old high rates is permitted, and the companies cannot be bound to follow the new schedule if they can show that they are not remunerative. The companies are very powerful at Albany, and have been able, year after year, to thwart the efforts of physicians and others to lower the tariff. Medical men in other States besides New York will be interested to follow the progress of this fight with this grasping monopoly.—*Journal of the American Medical Association.*

Another Jubilee Hospital.—The medical profession of Vienna proposes to commemorate the fiftieth year of the reign of the Emperor Francis Joseph of Austria by the foundation of a hospital for children, with a capacity of one thousand beds.

A Tax on Doctors.—The doctors of North Carolina must hereafter pay an annual tax of $10 into the State Treasury for the privilege of practising medicine! That is the edict of the mongrel Legislature which has been in session in Raleigh, and which has attracted the attention of the whole country by the many strange things they have done. But can an evil tree bring forth good fruit? Verily, no.—*North Carolina Medical Journal.*

Obituary Notes.—Dr. Carl Thiersch died on April 28th, at his home in Leipsic, aged seventy-three. He was born in Munich on April 20, 1822, and studied medicine there and in Berlin, Vienna, and Paris. He was made Professor of Surgery at Erlangen in 1854, and was called to the same chair in Leipsic in 1867. During the Franco-German War he served as chief surgeon of the Twelfth Army Corps. His name is associated with the method of skin-grafting by means of broad strips of skin.—Dr. J. P. Wall, of Tampa, Fla., died on April 18th, while reading a paper before the Florida Medical Association in annual session at Gainesville.—Dr. Joseph L. Wade, health officer of Irvington, N. J., died on April 20th, aged sixty-six.—Dr. M. H. Burton, of Troy, N. Y., died on April 28th, at Bay Shore, L. I. He was a graduate of the Albany Medical College, and was President of the Alumni Association of that college. He was for sixteen years Health Officer of Troy. He was a delegate to the Medical Conference at Berlin.—Dr. Peter H. Madden, of Woonsocket, R. I., aged sixty-seven, died April 29th. He was educated in Ireland, Paris, and Belgium, and had practised in Woonsocket since 1860.

Private Hospital for Contagious Diseases.—The subscriptions to this proposed hospital now amount to over sixty thousand dollars. It is desired to obtain $75,000 before beginning work on the buildings.

The Samaritan Hospital for Women, Montreal.—A new hospital for women, with the above name, was opened by Her Excellency the Countess of Aberdeen, wife of the Governor-General of Canada, on January 17, 1895. It is the only special hospital for diseases of women in Montreal, and will be moulded on the pattern of the Women's Hospital of the State of New York in this city. It is managed by a board of thirty ladies, assisted by an advisory board of three laymen and three physicians. The staff consists of Sir James Grant, M.D., consulting physician; Dr. Wm. H. Hingston, consulting surgeon; Dr. A. Lapthorn Smith, surgeon-in chief; Dr. H. Lionel Reddy, surgeon; Dr. S. F. Wilson, assistant surgeon and registrar; Dr. Sylvester, assistant surgeon, and Dr. Letellier de St. Just, assistant surgeon.

The Third International Congress of Dermatology will be held in London, on August 4 to 8, 1896. The president of the Congress will be Mr. Jonathan Hutchinson; treasurer, Mr. Malcolm Morris; secretary-general, Dr. J. J. Pringle; secretary for the United States, Dr. G. T. Jackson; vice-presidents for the United States, Drs. Bulkley, Keyes, and Fox, of New York; Duhring, of Philadelphia; White, of Boston, and J. Nevins Hyde, of Chicago; vice-presidents for Canada, Drs. Shepherd, of Montreal, and Graham, of Toronto.

The Medical Association of Georgia.—At the last annual meeting of this Association, held in Savannah on April 17th to 19th, Dr. F. M. Ridley, of La Grange, was elected president, Drs. W. H. Doughty, of Augusta,

and M. L. Boyd, of Savannah, vice-presidents, and Dr. R. N. Taylor, of Griffin, secretary. The next meeting will be held in Augusta. At the close of the meeting an ophthalmological section of the Association was organized and Dr. J. L. Hiers was elected chairman, and Dr. W. F. Aiken secretary.

The Charcot Monument Fund.—The total amount of the subscriptions to this fund from this country and Canada is now $813.

Improvements at Quarantine.—A bacteriological laboratory has been fitted up in the executive building at the quarantine station of this port, and will soon be placed in charge of a well qualified bacteriologist. In order to permit vessels to come up to their piers at night, the health officer, Dr. Doty, has consented to pass vessels after nightfall. The night inspection of passengers will be accomplished by aid of a 300-candle-power electric light, which will be carried in the health officer's boat and will be attached to the electric light system of the vessel to be examined. The light consists of a single incandescent bulb.

Four Years' Course in Homœopathy.—Dr. F. Mortimer Lawrence, of Philadelphia, writes: "In your enumeration of the medical schools of the United States which absolutely require a four year course for graduation you have omitted the name of the Hahnemann Medical College of Philadelphia, which two years ago, considerably in advance of several of the schools mentioned in your paragraph, announced its lengthened curriculum."

The Case of Landry's Paralysis.—Dr. Beverly Robinson writes: "Would you kindly direct attention in the next issue of the MEDICAL RECORD to the fact that an error has been made in the report of the autopsy of the case of Landry's paralysis printed in the MEDICAL RECORD of April 27, 1895. The report of the brain examination under autopsy of Landry's paralysis properly belongs in great part to the case of brain tumor printed immediately afterward."

American Association of Medical Editors.—The annual dinner of the American Association of Medical Editors will take place Monday, May 6, 1895, at the Equitable Building (ninth floor), Calvert and Fayette Streets, Baltimore. A business meeting will be held at 6.30 P.M., at the same place. Members may bring guests upon purchase of tickets for them. Banquet tickets, $5 each, can be obtained from William B. Canfield, M.D., Secretary, 1010 North Charles Street, Baltimore, Md.

The American Medical Association.—The forty-sixth annual meeting of the Association will be held in Baltimore on May 7, 8, 9, and 10, 1895. The question of the amendments to the constitution and by-laws, which was laid over from the meetings of 1893 and 1894, will be resumed at this session and probably settled permanently. The addresses at the general sessions will be as follows: Presidential address, by Dr. Donald Maclean, of Detroit; address on General Medicine, by Dr. William E. Quine, of Chicago; on General Surgery, by Dr. C. A. Wheaton, of St. Paul; on State Medicine, by Dr. H. D. Holton, of Brattleboro. The chairman of the Committee of Arrangements is Dr. J. J. Chisolm. The usual reduction of one and one-third fares for the round trip will be allowed to members by most of the railroads. On the fourth day of the meeting there will be an excursion to Gettysburg by special train, the fare being set at $1 per passenger, provided one hundred and fifty persons will take the trip. Notice of intention to make this excursion should be given at the registration office on the first day of the session. Dr. Charles Jacobs, of Brussels, will be the guest of the gynecological section, and, if a suitable subject can be found, will perform his operation of vaginal total extirpation of the uterus and appendages before the members of the section.

The Faculty of the Northwestern University Medical School, of Chicago, has received from Zurich, Switzerland, the acceptance by Winfield Scott Hall, Ph.D., of the Davis Professorship of Physiology. Dr. Hall graduated as a Bachelor of Science in the College of Liberal Arts of the Northwestern University in 1887, and in the Northwestern University Medical School in 1890.

Vaccination and the Referendum.—Obligatory vaccination is to cease in the Canton of Berne, Switzerland. An election just held showed that the anti-vaccinists cast 26,238 votes against 24,543 by their opponents.—*Journal of the American Medical Association.*

Twenty-five Per Cent. of the Johns Hopkins Medical School students are now women.

A New Idea for Medical Societies.—A curious innovation in society work has been introduced by the York Medical Society. Dr. Baxter Tyrie, the President, offered, a short time ago, a prize for the best impromptu speech, for competition among the members. We learn that about twenty members essayed their chance in this novel undertaking, and the judges awarded the prize to Mr. Vaughan Bateson, the son of a local solicitor. There is no doubt much room for improvement in the oratory at medical societies, but whether this desirable result will be obtained by the system of awarding a prize to the best speaker is a matter which does not call for serious discussion.—*Medical Press.*

A New Epidemic in Berlin.—Aphthous fever, an affection identical with bovine, foot-and-mouth disease, has been for some years constantly present in several places in the neighborhood of Berlin. This year it has invaded the city, and, although for the present only a part of Berlin is infected, the epidemic will undoubtedly spread over the whole town if no preventive measures are taken.

The Helmholtz Monument.—A monument will be erected in Berlin in honor of the late Professor Helmholtz.

An Aid to Prescription Writing.—*Doctor* (to fair patient): Put out your tongue. (Meanwhile he writes out a prescription.) There, that will do.—*Miss Chatterbox:* But, doctor, you did not even look at my tongue.—*Doctor:* No, I only wanted you to keep quiet while I wrote the prescription.—*Geillustreed Stuiversblad.*

Examination by Proxy.—The *Medical Standard* some years ago discussing medical Paris said that the old

Paris school of medicine never entertained a queerer character than that student who earned a livelihood by passing students' examinations for them. His imitation of voices was so perfect that intimate relatives were often deceived. Some diplomas granted to Americans just about this period possibly owed their origin to this skill, since these students studied other phases of Paris life than medicine. The State examinations of New York have repeated this phase of medical history. Two men have been detected acting as proxies in an examination. The students under whose names they posed have been rejected, and are to be placed on a blacklist as guilty of unprofessional conduct.

Recipes for Professorships.—Dr. Abraham Jacobi gives in a recent address the following recipes for becoming a college professor: "To be rich, well connected, and have relatives among hospital and college trustees is a very necessary mental equipment. To have a friend who is wealthy and endows a chair for you. In Germany be a son-in-law of a leading professor. A German privatdocent died lately at the ripe age of seventy-four, who proved incapacity for advancement by refusing to marry the daughter of the full chair. Write a text-book while you are young and fresh. There are so many that you can extract half a dozen and make the seventh with the aid of very little brains and much more *a posteriori*. Operate on two alleged lacerations daily, and let no more than fifty per cent. die of septicæmia. Prove that the best place for ovaries is in a jar."

This is a rather pessimistic view of the matter. In medical colleges of repute, a man must have a more than ordinary capacity and more than average educational equipment in order to secure a professorship. There is, however, as the *Medical Standard* says, one recipe for a professorship which is peculiarly American. This is to take $10, and start a medical college. But in New York and a few other States this is not possible, on account of the legal provisions regarding the incorporation of medical colleges.

The Results of the New York Medical Examination Law.—From the report of the Examination Department of the University of the State of New York we learn the following: An analysis of the results of the licensing examinations since September 1, 1891, shows: That 8.9 per cent. of the old-school candidates were rejected in 1892, 7.4 per cent. in 1893, and 20.2 per cent. in 1894; that 25 per cent. of the homœopathic candidates were rejected in 1892, 9.5 per cent. in 1893, and 13.7 per cent. in 1894; that 50 per cent. of the eclectic candidates were rejected in 1892, 28.5 per cent. in 1893, and 50 per cent. in 1894. During the three years, 56, 267, and 390 old-school candidates have been examined; 8, 21, and 51 homœopaths; and 4, 7, and 4 eclectics, making a total of 808, of which number 121, or 15 per cent., were rejected. This result is remarkable when we consider that admission to the licensing examinations presupposes the preliminary education required by statute and graduation with the degree of bachelor or doctor of medicine from a registered medical school. It speaks well for New York State medical schools that of the 445 candidates examined during the year ending July 31, 1894, 291 were graduates of New York medical schools, and 154 of schools of other States and countries, and that of the 88 candidates rejected at these examinations, 42 were graduates of New York medical schools, and 46 of schools of other States and countries.

An Anatomical Curiosity.—Dr. J. W. Ogle has recorded in the twenty-ninth volume of the *Journal of Anatomy and Physiology* an interesting example in which one of the roots of the left hypoglossal nerve passed through the left vertebral artery within the skull. An excellent drawing is reproduced, but the specimen itself was not preserved. We had almost thought, with Dr. Ogle, that the observation might have been a unique one, for although nerves passing through bones in early development (as, for instance, one of the supra-clavicular nerves passing through the clavicle) are well recognized, nerves passing through blood-vessels, especially arteries, are very rare. Instances are known of the internal anterior thoracic nerve passing through the axillary vein, and of the nerves at the bend of the elbow passing through one of the veins at that point; and the nerves passing into the thorax occasionally obtain a passage through the large venous trunks. It is therefore very remarkable that the only other instance of the passage of a nerve through an artery that we can find recorded is by Otto, who mentions a wax model in the anatomical museum of the Joseph-Academie in Vienna, where the hypoglossal nerve also ran through the vertebral artery. The same nerve and the same artery are involved, and it is very curious that such an anomalous development should apparently be thus limited.—*Lancet.*

The Mayor of Berlin on Loeffler's Bacillus.—In America when diphtheria is prevalent the bacteriological examination of suspected cases is made in municipal laboratories free of charge. The medical club of the Luisenstadt quarter accordingly asked the municipality to follow the example of America, and to make similar arrangements in Berlin. In the name of the town council the mayor answered that there was no need for this examination, as it was not yet proved that Loeffler's bacillus is really the sole cause of diphtheria. In the *Medical Reform* a medical man asks, ironically, if the mayor would be acknowledged as an authority on bacteriological questions, and, if not, on whose advice it was that he formed his opinion on the etiology of diphtheria. The other medical journals join in blaming the mayor for his peremptory and not over-polite answer. The question will now be taken up by the "Medical Stores," an establishment similar to the Army and Navy Stores, where the members of the profession can obtain medical articles at lower prices than in the ordinary shops. The directors of these stores now undertake general bacteriological examinations. Practitioners who desire to have their cases investigated procure from the stores pieces of sterilized cotton-wool packed in small sterilized glasses. A bit of the cotton-wool is to be pressed on the suspected membranes, then put back into the glass, and sent in a small box to the laboratory of the stores, where the examination is performed by a specially appointed bacteriologist. The practitioner receives an answer on the following day.

Reviews and Notices.

ON DIGESTIVE PROTEOLYSIS. Being the Cartwright Lectures for 1894. By R. H. CHITTENDEN, Ph.D., Professor of Physiological Chemistry in Yale University. New Haven: Tuttle, Morehouse & Taylor. 8vo, pp. 137.

OUR readers will be glad to learn that the interesting and valuable lectures of Professor Chittenden, which have appeared in the RECORD of last year, have been collected and published in a single volume.

Treating of a subject of the greatest importance to the practitioner and scientist, it will doubtless find a place for itself in the library of every progressive student.

THE PRACTICE OF MEDICINE. By WILLIAM C. GOODNO, M.D., Professor of the Practice of Medicine in the Hahnemann Medical College, Philadelphia. With Selections on Diseases of the Nervous System by CLARENCE BARTLETT, Lecturer on Nervous Mental Diseases, Hahnemann Medical College, Philadelphia. Volume I. Specific Infectious Diseases of the Nervous System. 8vo, pp. 961. Philadelphia: Hahnemann Press. 1894.

THIS work, written for homœopathic practitioners, may be considered a representative of its class in respect to the manner and dosage of the remedies prescribed, although there is infused in it a judiciously conservative element regarding the therapeutics of the "old and dominant school." Indeed it impresses the reader with the fact that the triturations are often tributary and supplementary to the ordinary remedies employed by the regulars. Alimentation and stimulation have leading places, while suitable reliance is placed in times of great emergency upon indications which govern the therapeutics of the old school. The clinical phenomena of disease are well presented, the influences of bacteriology are consistently acknowledged, and the history of the different affections is well epitomized. It can scarcely be questioned from the homœopathic stand-point that the work is fully up to the times and shows a tendency to approach that common line of agreement which is based upon a broader principle than the upholding of a sect or the fighting for a dogma.

FIBROID DISEASES OF THE LUNG, INCLUDING FIBROID PHTHISIS. By SIR ANDREW CLARK, M.D., W. J. HADLEY, M.D., and ARNOLD CHAPLIN, M.D. With Tables and Eight Plates in Colors. Pp. 199. London: Charles Griffin & Co. (Limited). 1894.

THE volume before us represents an enormous amount of clinical experience and literary investigation, and covers a subject of much practical importance. The discovery of the tubercle bacillus has simplified our conceptions of pulmonary phthisis, but it has had an overshadowing influence also in the current views of pathology. Most physicians have been content to believe that all phthisis is primarily and essentially a tubercular process.

The present authors have succeeded in showing that this is not the case. There are three forms of the phthisical affections, viz.: Tubercular phthisis, tuberculo-fibroid disease, and fibroid phthisis. In the first type the bacillus is primarily and chiefly at fault; in the second, the tubercular process is associated with a chronic fibroid induration; in the third type the tubercle bacillus is not found at all, and the disease is essentially a cirrhosis of the lungs. Fibroid phthisis, as thus defined, is extremely rare, for only forty-five cases are collected; tuberculo-fibroid disease is more common, but is much rarer than the pure tubercular disease. The work gives a full description of fibroid and tubercular fibroid phthisis, but we must refer our readers to it for details. Many illustrations add to the value of the book, which will occupy a permanent place in medical literature.

THE PHYSICIAN'S VADE MECUM. Being a Hand-book of Medical and Surgical Reference, with the Usual Information and Tables. By SEBASTIAN J. WIMMER, M.A., M.D., author of "Tables and Notes on Human Osteology," of "Memoranda and Tables of Human Anatomy;" Member of the Alumni Association of the New York College of Physicians and Surgeons, Metropolitan Medical Society, New York Press Club, etc. With additions by Frank S. Parsons, M.D., Editor of the *Philadelphia Times and Register*; Member of the American Medical Association, Massachusetts Medical Society; formerly Lecturer on Diseases of Children, College of Physicians and Surgeons, Boston, 1889–1892, etc. Philadelphia: The Medical Publishing Company, 718 Betz Building. 1894.

NARROW in size of page, broad in scope of subjects touched upon, thick with prescriptions and pointers, long drawn out as to its not faultless English, French, and German "interpreter"—compared with the distance it would carry one. Thin paper, small type, full index. Without the latter the patient would be over his need for the hint, before the doctor found it in the mass of matter.

EDWARDS'S HYGIENE, WITH ANATOMY AND PHYSIOLOGY. Being an Amplification of Edwards's "Catechism of Hygiene." By JOSEPH F. EDWARDS, A.M., M.D., Member of State Board of Health of Pennsylvania, etc. Intended for Schools and General Reading. 8vo, pp. 435. New York: Edward P. Slevin.

THIS is a very curious book, and is so bewilderingly unique that the general reader and primary scholar, for whom it is intended, deserves to have considerable commiseration in advance. The plan is, fortunately, original with the author, and we trust that it is sufficiently guarded by restrictions to prevent any other ambitious instructors from imitating it. We do not criticise the statements concerning hygienic principles, but the manner in which they are presented and illustrated.

THE ANNUAL REPORT OF THE HOMŒOPATHIC HOSPITAL AT MIDDLETOWN, N. Y., is a very elaborate one, and in its line is a notable addition to the literature of the treatment of insanity. The percentage of cures is, however, no better than by the less specific methods adopted by other asylums.

SUGGESTIONS TO HOSPITAL AND ASYLUM VISITORS. By JOHN S. BILLINGS, M.D., and HENRY M. HURD, M.D. With Introduction by S. Weir Mitchell. 12mo, pp. 48. Philadelphia: J. B. Lippincott Co. 1895.

THIS little book contains in very convenient form such practical suggestions as may serve lay visitors of hospitals and asylums. All the points are well taken and intelligently presented.

PRINCIPLES OF SURGERY AND SURGICAL PATHOLOGY. General Rules Governing Operations and the Application of Dressings. By DR. HERMANN TILLMAN, Professor in the University of Leipzig. Translated from the Third German Edition by JOHN ROGERS, M.D., and BENJAMIN TILTON, both of New York. Edited by LEWIS A. STIMSON, M.D., Professor of Surgery in the University of the City of New York. With 441 Illustrations. New York: D. Appleton & Co. 1894.

SURGICAL pathology is now universally recognized as the true basis of surgical practice. The volume before us is an excellent epitome of the most recent views at present current in Germany concerning the various morbid processes that come within the scope of the surgeon. The German school of surgery, and more parti-

cularly surgical pathology, is not so distinctive and peculiar as to give an undue bias to the American student, willing to be guided by its precepts and tenets. In fact modern surgery is truly international in its essential principles. The present work will commend itself to the attention more particularly of the student class. The translation has been well done, the illustrations are fairly well executed, and most of them are new.

TRANSACTIONS OF THE NEW HAMPSHIRE MEDICAL SOCIETY at the One Hundred and Third Anniversary, held at Concord, June 18 and 19, 1894.

THIS volume contains the usual number of papers, together with the report of the proceedings at the annual meeting of the Society. An interesting article is one by Dr. Conn on the "Sanitary Condition of Mexico."

DEGENERATION. By MAX NORDAU. Translated from the Second Edition of the German work. New York: D. Appleton & Company. 1895.

THIS is a treatise on degeneration and the degenerates written by one who, to take his own highly drawn presentation of the symptomatology of the affection as a guide, must be judged as possibly himself a sufferer from a mild form of the *fin-de-siècle* disease. The author is a follower of Lombroso, who goes a step farther than his master, and applies his touchstone of degeneracy to the founders of various schools in art and literature in vogue at the present day, and finds that they and their followers are as surely degenerates as the criminals, prostitutes, anarchists, and other disturbers of society, who have been the favorite subjects of Lombroso's study. Eccentricity, genius, or pseudo-genius, and self-adulation, are the hall-marks of the leaders among the æsthetic degenerates, while servile imitation, lack of originality, love of novelty, and complacent self and mutual admiration characterize their followers. Among those whom Nordan studies as types of the non-criminal degenerates (not criminal possibly because the occasion of crime has chanced to be wanting) are Rossetti, Swinburne, Wagner, Tolstoi, Zola, Nietzsche, Ibsen, Verlaine, and Mellarmé. The freedom with which the author analyzes the psychic symptoms of living writers and establishes, to his own satisfaction at least, the diagnosis of their degeneracy and mental unsoundness must be not altogether agreeable to the subjects of his study. This makes the book all the more interesting, however, to the multitude, who, not being named specifically, are at liberty to consider themselves sane in most respects, especially in their judgments concerning their fellows. The book is indeed an absorbingly entertaining one, and contains a vast deal of food for thought. The author knows his subject thoroughly, knows what he wants to say and how to say it. and whether or no we agree with him, we are forced to confess that his warnings are not to be despised, that the *fin-de-siècle* disease is a reality, and that there is danger to the race if it spread to the *bourgeoisie*, to the "common people," in whose keeping is the fortune of humanity. But there is little fear that it will spread, and indeed we are not sure that a little leaven of "degeneracy" is not salutary in this intensely practical age.

THERAPEUTIC SUGGESTION IN PSYCHOPATHIA SEXUALIS, with Especial Reference to Contrary Sexual Instinct. By DR. A. VON SCHRENCK-NOTZING, Practising Physician in Munich. Authorized Translation from the German, by CHARLES GILBERT CHADDOCK, M.D., Professor of Diseases of the Nervous System, Marion-Sims College of Medicine, etc. Philadelphia: The F. A. Davis Company. 1895.

THIS is a book on the same line as that of von Krafft-Ebing, the special object being to show the effect of hypnotism and suggestive therapeutics in the treatment of perverted sexual instinct. We cannot see that it will serve any useful purpose, or rather the good that may possibly come from it will, we believe, be more than counterbalanced by the harm which will come to the young from a perusal of the many cases of sexual perversion recounted, often by the victims themselves, in revolting and unnecessary detail. Furthermore, we would energetically protest against the doctrine, which the author boldly avows, of practically unrestrained fornication. The question of morality aside, we fail to see that an onanist is much better off for becoming a frequenter of brothels and a victim of venereal disease in the hope, which is by no means always realized, of curing himself of his original vice.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 18, 1895.

JOSEPH D. BRYANT, M.D., PRESIDENT IN THE CHAIR.

Doctors and the Presidency of the Board of Health.—DR. H. D. CHAPIN offered a resolution, supported by an argument, endorsing the bill before the Legislature to remove the disqualification existing under the present law of a physician occupying the position of President of the Board of Health in New York City. It was laid over for action at the second meeting in May.

Further Improvements in Microscopical Technique.—DR. HENRY G. PIFFARD read the paper, which was illustrated by apparatus and lantern slides. (See p. 545.)

Dr. Piffard then threw numerous lantern views on the screen, partly in illustration of his paper.

DR. STERN was called upon to open the discussion. He said he had used the new mounting medium, liquid-ambar, with such extraordinary results that he expected hereafter to employ it altogether. With it he had been able to detect clearly outlines of structure which under Canada balsam had been very faint. He asked Dr. Piffard why one could not get critical illumination with Abbe's condenser.

DR. PIFFARD, in replying, said that one could not obtain critical illumination with a condenser which was not correct, and Abbe's was such.

DR. FORDYCE spoke next, and said he thought that all who worked with the microscope, and especially those who did critical work, were greatly indebted to Dr. Piffard for technique of illumination, mounting medium, etc. Formerly, when using lenses made by the Germans, he had been unable to obtain satisfactory microphotographs, but since using those made by Spencer, after the suggestion of Dr. Piffard, he had been able to obtain exceedingly satisfactory microphotographs.

MR. C. F. COX was called upon by the President as a gentleman who had had experience in microscopy. Mr. Cox said he had been much impressed with the quotation made by Dr. Piffard from Abbe, and which had been accepted as orthodox, to the effect that we could not see anything correctly through the microscope if its diameter was less than $\frac{1}{3000}$ of an inch. While Dr. Piffard had not said that he was or was not orthodox, Mr. Cox was free to state that personally he was not. He had come to trust the microscope further. If it was true, as Abbe claimed, that our lenses were unable to take up all the refractive rays which left the object, and if it was necessary that they should take up all the refractive rays in order that the image should be a true picture of the object, then, of course, we were working very much in the dark. The speaker, however, believed that we saw much more correctly than the authorities had given us credit for, and he agreed with Dr. Piffard in thinking that there was a great deal to be gained by learning to operate these very wide-angle objectives. It was those who were wedded to the old theory of penetration, of seeing things in

stereoscopic relief, who were still working with the old-fashioned narrow-angle objective. While they did good work, they nevertheless missed a great deal which those gained by widening the angle of the lens. He would call attention to one advantage of widening the angle which had not been mentioned by Dr. Piffard this evening, namely, that while one saw less and less in depth he was yet able to separate the object more distinctly into its layers, and thereby accomplish what otherwise would have to be done mechanically with the microtome. Mr. Cox said he was a little sceptical about the value of wide-angle condensers, but he was fully in accord with Dr. Piffard with regard to the value of wide-angle objectives.

Dr. F. D. Skeel testified to the improvements made in lenses in this country, and said that under new technique he was able to carry out his examinations of the tubercle bacillus with a quarter-inch lens, a statement which a few years ago would have been regarded as moonshine. He was inclined to agree with Mr. Cox in his heretical views.

Mr. Bennett, who had made a study of diatoms, etc., testified to the value of the new media.

Dr. Piffard, in some concluding remarks, said he had found it difficult to free himself of the notion that what was needed in our lenses was penetration, until in the frontispiece of Carpenter's work he had observed two photographs, one taken with a lens of low aperture, the other with a lens of high aperture, both with the same magnifying power. The superiority of the one taken with the lens of high aperture was most striking. The highest aperture practical in a given case should be used if we would differentiate structure.

Therapeutic Hints.

Incontinence depending on lack of control in vesical sphincter. Tincture of cantharides every eight hours, provided stomach, bladder, and kidneys are free from inflammation.—Hare.

Snake-bite.—One drop of the gall of a rattlesnake applied to the wound is said by the *Scientific American* to be a cure. The gall-bladder entire can be preserved in alcohol. It is not stated whether it must be the gall of the snake that bit you.

Aluminol is considered almost a specific in gonorrhœa used as an injection of from one to twenty per cent. It has also been used with benefit in parasitic skin diseases, as well as psoriasis, prurigo, eczema, and ulcerations.—Heinz.

Peppermint Oil in one per cent. strength, combined with creosote, glycerine, chloroform, and alcohol, is recommended for inhalation in phthisis.—Braddon.

Diabetics are poor subjects for anæsthesia. Coma is apt to follow.

Quinine Pills made with aromatic sulphuric acid can be broken up at time of using and readily given to children with a little brown sugar or chocolate.—Bond.

Kola Extract, fifteen grains, sirup of quince, two ounces, given in teaspoonful doses, for chronic diarrhœa of infants.—Combemale.

Idiopathic Enlargement of the Heart.—The Schott treatment, by baths and gymnastics, seems specially serviceable in this affection before compensation has become irretrievably lost.—Babcock.

Oil of Cinnamon, while not a germicide, is a good mucous-membrane antiseptic in 1 to 500 solution, especially in infective varieties of nasal, laryngeal, and aural affections.—Kyle.

Gonorrhœal Vaginitis.—

℞. Potass. permangan..... gm. x.
Aquæ dest..... gm. cc.
M. Sig.: A tablespoonful for two quarts of water.

This is the best remedy, but it soils linen. In rebellious cases, or when it is necessary to act rapidly, a speculum is introduced and the vagina is painted with a solution of silver nitrate (two grammes in thirty grammes of water). Before withdrawing the speculum, a large tampon saturated with the following is introduced:

℞. Acidi tannici..... gm. ij.
Cocain. hydroch..... ctgm. x.
Glycerini..... gm. cxx.
M. This tampon should be left in position two days.

—Lutaud.

Glaucoma.—When inflammatory iridectomy is the only treatment to be considered, it should be done at the earliest possible moment. To relieve pain, dry heat or the brief application of cloths wrung out in very hot water will be found best, but operation alone will give complete rest.—Jackson.

Pterygium.—Eye wash of bichloride of mercury (1 to 4,000) combined with cocaine and morphine. Four cases cured.—Balis.

Nuclein gives prompt and decided results in malarial fever.—Wilson.

Chloralamid succeeds in arresting night-sweats in over half the cases. Thirty to thirty-five grains were given at bed-time. Agaricin gave still better results, controlling the sweating in three-fourths of the trials. One-twelfth grain in pill-form at bed-time.—Conkling.

Compound Rhubarb Powder and careful dieting three days before operation prevent chloroform nausea.—Stern.

Stridulous Laryngitis.—Sixty grains of potassium bromide daily to a child of four and a half years, continued in large doses for five to eight days.—Huchard.

Erythema of Persistent Nature.—Quinine, thirty grains daily, in five-grain doses.—Payne.

Acne.—Superfatted menthol-eucalyptol soap when skin is inflamed.—Mackenzie.

Jugulate Pneumonia by Large Doses of Digitalis.—Tablespoonful of infusion (made with one drachm of leaves in seven and a half ounces of water) every half hour. Mortality a little over two per cent. and cure in three days.—Petresco.

Digitalis and Heart Tonics are singularly inefficacious in irregularities of heart following influenza. Digitalis is not only useless but harmful.—Sansom.

Bronchitis.—

℞. Phenol salicylate..... ʒ j.
Terpin hydrate..... ʒ j.
Codein sulphate..... gr. ij.
M. Make twenty capsules or pills.
Dose.—One every four hours.

—Solis-Cohen.

Peripheral Neuritis.—Strychnine, grain $\frac{1}{80}$ to $\frac{1}{30}$, three times daily.—Stodart Walker.

Delirium Tremens—Chloralose four to nine grains.—Haskovec.

Iodide of Potassium, when it causes coryza and depression, can be best given with nux vomica and citrate of iron and ammonia.—Hardaway.

Vomiting of Pregnancy.—Chloral per rectum.—Parvin.

Guaiacol locally in follicular tonsillitis, one or two applications and cure within forty-eight hours.—Raymond.

Cephalalgia.—Cannabis indica is useful in all forms, gr. $\frac{1}{12}$ to gr. $\frac{1}{2}$.—Mackenzie.

Gonococci are destroyed in two hours by a one per cent. solution of creosote in hamamelis with boric acid. —*Pacific Medical Journal.*

Neurasthenic Debility.

℞. Acid phosphate..... ʒ j.
Ext. cocæ liquid..... ʒ ss.
Ext. damian. liquid..... ʒ ss.
Tr. nucis vomic ..... ♏ x.
Syrup. zingib..... ʒ j.
Aq.....ad ℥ ss.
Ft. dosis. S.: To be taken in water at 11 A.M. and 6 P.M.

—Sir Andrew Clark.

Dipsomania.—Strophanthus in seven-minim doses cuts short the attack, produces nausea without ability to vomit, sweating, and not only loss of desire for alcohol, but disgust for it.—Skworzow.

Heart Sedatives.—Nitroglycerine is a sedative and not a stimulant. Digitalis is much abused. In excessive hypertrophy of sedentary individuals after a life of active exercise aconite acts well. Next to aconite as a sedative come gelsemium and then veratrum viride. —Hare.

Sepsis patients bear chloroform badly. "Half narcosis" is advised for minor procedures.—Mikulicz.

Iodide of Potassium given alone or in tablet form is apt to irritate and to be very slow of absorption. The following potable form of administration is advised:

℞. Potassii iodid..... gr. v.
Spirit. ammon. aromat..... ♏ xv.
Tinct. gentian. comp.....ad ʒ j.
Ft. dosis. S.: To be taken in a wineglassful of water.

—The Practitioner.

Lupus with disseminated nodules is best treated by curettage with a small, fine instrument which will enucleate the nodules. Cautery with chloride of zinc applied by means of a brush made with cotton should complete the operation.—Dubreuilh.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEETING OF ROYAL COLLEGE OF PHYSICIANS—THE PRESIDENTIAL ELECTION AND ADDRESS—MEDICAL SOCIETY—A NEW NOSE—MEDICO-CHIRURGICAL SOCIETY—PELVIC HYDATIDS—LEPROSY—PRIZES — HYDROPHOBIA.

London, April 13, 1895.

Our Easter holidays have begun. Many left town on Thursday, but the earlier part of the week was full enough. The College of Physicians, to which precedence is due on the principle of *seniores priores*, had an "extraordinary comitia" on Monday, when Sir R. Reynolds was re-elected to the presidency by a practically unanimous vote—76 to 4—and then delivered his annual address. Before this he proposed the resolution of sympathy with the sister college on account of the decease of their President, Mr. Hulke. In the address it is usual to allude to Fellows who have died during the year, and Sir R. Reynolds gracefully mentioned the merits of Drs. Brown-Séquard, W. J. Little, O. Sturges, Bissett Hawkins, and Hack Tuke. He then made a new departure by alluding to a deceased member, Dr. Greenhill, the great scholar, sanitarian, and physician, whose death at Hastings I have previously recorded, and who was once offered the Fellowship, but declined it. The President did well to allude to this eminent scholar, who would have conferred distinction on the college which would not increase his renown. Perhaps at an earlier period he might have accepted, but what could a delayed compliment have seemed to such a man? The decennial revision of the nomenclature of diseases was stated to be ready to issue in a few days. The college undertook to publish the "Life of Sir Henry Halford," which has been written by Dr. Munk. Sir Henry's presidency was the longest in the history of the college, extending over twenty-four years, and he was physician to four successive British sovereigns. His life, therefore, from the facile pen of Dr. Munk, is likely to be full of interest.

On Monday there was a goodly show of cases at the medical society. Among them—a rare triumph for Mr. Bloxham—a case in which he had transplanted a finger to make a new nose. An attempt had been made to repair the damage by a flap from the forehead. When he came under the care of Mr. Bloxham an endeavor was first made to utilize a newly amputated finger, but without success; whereupon the patient suggested trying a stiff finger of his own. This was carefully prepared and placed in position, and kept there until adhesion took place, after which it was amputated and trimmed. The result is satisfactory to both patient and surgeon.

On Tuesday, pelvic hydatids were discussed at the Medico-Chirurgical apropos of a case related by Mr. R. Harrison, who in October last made an incision through the perineum as if for a lateral lithotomy, but without opening the urethra. About half a gallon of fluid and cysts was evacuated, and then the cavity was washed out and drained. The cavity contracted and healed and the man is now well. Mr. Harrison thought this opening better than through the rectum or abdominal wall, and he was supported by Mr. Durham and Mr. Hutchinson, who also said that though living hydatid cysts might sometimes be cured by simple puncture, dead ones must be completely emptied. Mr. Haward agreed to the necessity for complete evacuation, and mentioned a case he had emptied through the abdominal wall, adding that if the hydatid projected into the abdomen, the prospect of this opening was good, and any abdominal cyst being present could be treated at the same time, while drainage was easily effected.

Dr. J. Harley had collected some two hundred cases of hydatid tumors, and said cure could only be effected by removal of the parent cyst.

The award of prizes by a committee appointed by the National Leprosy Fund is announced. Dr. Impey, of Robbin Island, takes the prize for the essay on "Leprosy in South Africa;" Dr. George Newman, on its extinction in the British Islands; Dr. Ehlers, on its prevalence in Iceland; Dr. Thompson, in Australia; and Dr. Cantlie, on the conditions in China, Batavia, etc. The prizes on some other subjects were not awarded.

The Radcliffe Travelling Fellowship at Oxford, a prize of great value, has been gained by A. C. Latham, of Balliol, who is a son of the late Downing Professor of Medicine at Cambridge.

The Jacksonian Prize of the College of Surgeons has been awarded to Mr. Waring, demonstrator at St. Bartholomew's Hospital.

The Albert Medal of the Society of Arts has been awarded to Sir Joseph Lister for his application of antiseptic methods to surgery, and the medal was presented by the Prince of Wales on Tuesday last.

Mr. Victor Horsley presided on Monday at a meeting of the Society for the Prevention of Hydrophobia and the Reform of the Dog Laws. The object of the Society is the total extinction of rabies and hydrophobia by a system of universal muzzling for not less than a year, and by a rigid permanent quarantine.

Mr. E. F. S. McKay, surgeon to an English warvessel on Lake Nyassa, was killed recently by a lion while out shooting.

OUR PARIS LETTER.

(From our Special Correspondent.)

NEW REMEDIES—BICYCLING AND THE ACADEMY OF MEDICINE—METRORRHAGIA AND RUPTURED HYMEN CAUSED BY BICYCLE—HORSE SAUSAGE AND THE COMMITTEE ON HYGIENE—HOW TO DETECT HORSE MEAT—NEW PROCEDURE FOR THE STERILIZATION OF MILK, ETC.

PARIS, April 20, 1895.

PROFESSIONAL Paris is just now inundated with new remedies — advertisements in medical journals, prospectuses, cards, and pamphlets arrive by post several times a day, generally accompanied by samples of the remedy, which usually is vaunted to be applicable to a great variety of diseases. The latest and most interesting of these are Kinkélibah, a remedy to be prescribed in hæmaturic bilious fever, and Maté wine, a muscular tonic. Dr. Heckel, who has had a large experience with the kinkélibah plant in Africa, near Dakar, and at the St. Louis Hospital in Senegal, advises its exhibition to Europeans either when hæmaturia complicates ordinary bilious fever, or when hæmaturic bilious fever is declared *ab initio*, or as a prophylactic in all bilious or malarial districts. The leaves, either dry or green, are used in decoction, and the ordinary dose as a prophylactic, is a *petit verre*, fasting, in the morning.

The other, the Maté de Douglas, is made from the leaves of the maté plant of Paraguay. The natives of South America make a liqueur by expressing the plant, and even chew the green leaves. The alkaloid matéine is the active principle, and those who use maté are able to undergo more fatigue and physical labor than otherwise. It is being largely experimented in Paris at the present moment, and is prescribed in all cases of muscular atony or weakness. It has the peculiarity of affecting almost exclusively the muscles, and imparting at the same time a general feeling of fitness and strength. The writer has used it with success in cases of cardiac weakness and relaxation of the laryngeal muscles, quite a common affection among tenors and sopranos, also in chronic constipation from want of tone in the muscular coat of the intestines. Both of these seem valuable remedies in the sea of worthless ones, and will doubtless find their way to America—in fact maté is already on its way there—and it will prove valuable in progressive muscular atrophy.

The bicycle craze is spreading, and several of our most eminent physicians may be seen almost any Sunday morning wheeling gracefully and quietly along the now shady avenues of the Bois de Boulogne.

No question has aroused more discussion and difference of opinion in the Academy of Medicine than that of bicycling—indeed it was discussed at several stated meetings, being warmly advocated by some, and as strongly condemned by others. The consensus of the Academy's opinion seems to be that moderate exercise on the bicycle is advisable in neurasthenia, anæmia, dyspepsia, gout, and obesity, in all cases of slowness of nutrition, and where moderate muscular movement is required. It is absolutely forbidden in phthisis, organic disease of the heart, and albuminuria. Married women and young girls are fast following the example set them by the men—the latter, especially. For them it is not only ill-suited but dangerous. The writer knows of two cases of metrorrhagia brought on by mild bicycling, and another of ruptured hymen from falling on the pummel. Some have immovable bicycles in their bedroom, the framework being screwed to the floor and the wheels moving just as on the road. The amount of injury done to the pelvic organs of young girls just reaching womanhood will not be long in making itself felt in the shape of uterine versions and flexions, or cellulitis, to say nothing of other such serious complications as those mentioned above. The Parisian gynecologists will undoubtedly soon have more than they can conveniently attend to if matters continue as they have begun.

The Council of Hygiene have solicited the Administration to impose upon makers of sausage-meat the obligation to declare the nature of the meat they put upon sale. It seems that there is a large industry of this kind in Paris, where twenty thousand horses a year are utilized in great part for the fabrication of sausages. This the Committee on Hygiene consider quite harmless; only the competition is so great that butchers sell pork sausage for horse sausage, which for some reasons is more desirable. A chemical procedure has, however, been discovered, and the fraud can easily be detected by means of iodine, which colors a reaction paper a red-brown, shading toward violet, when dipped in horse bouillon, and reacts differently upon the paper first imbibed with beef or mutton bouillon. At a recent dinner given by men engaged in this business, every dish, from the soup to the dessert, was made from some organ of the horse. The fact that the muscular tissue of the horse, some of his organs and his intestines often contain the eggs of different helminths, seems to be considered of no importance whatever by the Committee on Hygiene, or to have escaped their attention altogether.

The sterilization of milk is also attracting the attention of the profession and the public, especially as several of the great milk companies are furnishing adulterated milk. The ordinary process of sterilization is by heat, which should not exceed 100° C.; but a process far superior has been proposed by an engineer, M. Villon; it consists of treating the milk by oxygen under pressure, which causes no essential alteration whatever, an important point in the alimentation of sick people and new-born babes.

PERSONAL EXPERIENCES WITH A GLASS EYE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It seems to me that a great deal of what we see in medical journals about how artificial eyes should be kept, is humbuggery. But then I am not a physician but only a wearer of a glass eye. Keep them in a weak solution of boric acid, at night, we read. I was told by the manufacturer to keep mine in water, and did, every night, for a number of years. During these years the statement that an eye lasts about six months was true in my case too. Now I don't keep them in water and they last four times as long as that. I state the facts; others may do the explaining.

My eye is laid on a piece of oil-cloth at night. When I remove it, it is washed in plain cold water. When I make my toilet in the morning the cavity is well washed with water to which perhaps a little soap has been added, and the eye also washed again and inserted in its place.

I have never used antiseptics and have never suffered from sepsis of the cavity. Neither do I wipe the eye with cotton. That may explain the necessity of my removing the eye in company as mentioned below.

My "relay" I keep wrapped in tissue (toilet) paper in a little box made for eyes and lined with cotton velvet. When I wish to use it, I wash it in water and slip it in.

A unique experience was mine when I kept my eye in a glass of water. I awoke one morning to find the water in the glass frozen solid. After some handling the glass became slightly warmed and the cake of ice slipped out into my hands. There I had a lump of ice with my eye in the middle of it, just as we see fish frozen in cakes of ice in restaurants. It was time for me to be at business and there was no fire in the room. I broke the ice from all around the eye and finally succeeded in working it out. This could not have happened anywhere except in the South, where the people

are so hospitable that the weather comes in and makes itself at home, frequently bringing its things and spending the night.

A great deal is said about the patient providing himself with a pin, a hook, or a derrick, or some other means of lifting the eye out of its socket. I can sit in a room full of people and with nothing in my hand but a silk handkerchief, take out my eye, remove any mucous discharge which may have accumulated on it, swab out the cavity and replace the eye, and the company will hardly notice that I have done more than brushed away a passing tear. In doing this only one hand is used.

In handling my eye with my left hand one day it fell. I made a grab at it with my right, but instead of catching it on the fly I struck it a blow which sent it whizzing across the room until it was stopped by the wall. With a clear ringing sound it fell to the floor, perhaps twelve or fifteen feet from where I was standing—intact.

An intimate friend of mine sat near me one day and after looking me intently in the face said: "I heard that you wore a glass eye, but I see that it is not so." "You were correctly informed," I replied. "Which one is it?" he asked. With a pencil which I had in my hand I tapped the vitreous optic audibly. He was assured, but said he didn't see how a glass eye could have veins in it.

Having but one eye is a great hardship and a glass eye causes much embarrassment at times, but when a cinder gets into it how easy and painless it is to slip the eye out, brush the cinder off, and replace it. When a cinder gets into the other eye and causes so much pain, one almost wishes for the time being that too were a glass eye so that he might rid himself of his agony. But he doesn't think this too loud.

SILICA.

NEW YORK, April 18, 1895.

ON THE ACTION OF PERIODIC INDUCED CURRENTS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I would like to say, *apropos* of Dr. Goelet's paper "On the Action of Periodic Induced Currents," etc., that the "modern induction apparatus, so constructed as to give ten different currents from as many different lengths and three sizes of wire," is far from being a modern suggestion in the ordinary acceptation of the term as applied to apparatus for medical purposes. For at least twenty years this form of coil has been widely used, and in the MEDICAL RECORD of November 8, 1884, will be found the first detailed description of its construction and some therapeutical considerations that I gave in regard to the differential indications for the use of the currents from the different combinations. In the light of our present knowledge some of these considerations seem very crude, but they are, in the main, as correct now as they seemed to be then.

The only improvements that have been made in the construction of these admirable coils is the greatly increased length of the terminal or finest coil of wire, and its better adaptation for gynecological work. These improvements I fully described in the *New York Medical Journal* of May 13, 1893, and August 18, 1894.

A. D. ROCKWELL, M.D.

April 22, 1895.

GAS ASPHYXIATION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: By an account I have just read of two Italians suffocated by gas in a down-town lodging-house, I am reminded of a case of gas-poisoning I was called to last summer. After the patient had been restored to consciousness and had disavowed all intent at self-destruction, I investigated the chandelier of the sleeping-room and found that two of the keys were so deficient in action that when turned until brought to a full stop the outlet through the burner was left wide open for the gas to escape. The person occupying the room for the first time, and not knowing this unusual state of things, turns out his light, keeps on turning and goes to bed—perhaps never to get up again alive. In the case I refer to, the hotel people seemed to take little interest in the matter, though promising to have the defect remedied. I have since found several like instances, and have no doubt the city is full of burners equally calculated to deceive.

Would it not be a good plan for the MEDICAL RECORD to inaugurate an Anti-asphyxiation Association to urge proper inspection of gas-burners for the protection of the unwary?

C. W. A.

April 15, 1895.

THE URIC-ACID DIATHESIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: To your article on "The Uric-Acid Diathesis," in your issue of April 6th, I should like to add a suggestion as to treatment. It has been my experience that the application of a solution of ol. sinapis ess., 3 j., spts. rect., ℥ xiv., gives the patient a quick relief which is very gratifying to both himself and his physician. Saturate a gauze compress of about three layers and envelop the joint, and after an application of five to ten minutes remove and apply absorbent cotton. Those who will try it will find it the most pleasant way of applying warmth, and as there is no manipulation of the joint nor fear of blistering if only the gauze be used, the patient will be appreciative. My theory of its action is that by its stimulation of the cutaneous circulation the lymph circulation is secondarily stimulated, thereby causing the biurate crystals to be taken up from the synovial sac and dissolved.

JAY O. NELSON, M.D.

April 19, 1895.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 27, 1895.

	Cases.	Deaths.
Tuberculosis	109	105
Typhoid fever	7	3
Scarlet fever	101	12
Cerebro-spinal meningitis	2	4
Measles	231	19
Diphtheria	214	28

Bright's Disease a Blood Disease.—Professor Semmola asserts that the fundamental pathological condition necessary for the passage of albumin through the kidneys—and hence for the production of Bright's albuminuria—is the morbid diffusibility of the sero-albumin which is a true dyscrasia in Bright's disease and a primary etiological condition. This view is for the most part confirmed by the latest investigations of Freund on the changes of the blood in Bright's disease. Semmola is convinced that in the majority of cases—acute infectious diseases, toxic, rheumatic, and gouty dyscrasias—the albuminuria always arises from modification in the diffusibility of sero-albumin, resulting from molecular alterations in the blood. When in these cases a nephritis exists, it is the result of the same diathetic condition, or due to the effect of the albuminuria on the kidneys. The egg albumin arising from nephritis, if no general dyscrasia is added to the arterio-sclerosis—arterial and gouty nephritis due to uric acid deposits—is very

small—0.30 to 0.50 per 1,000—while the amount of albumin secreted from a dyscrasial condition of the blood, when this is the primary effect of the disease, rises to two, to four, or even up to twenty grammes per litre, as is the case in Bright's disease. Continued subcutaneous injection of egg albumin causes albuminuric retinitis, and during life the animals experimented on show weakening of vision.

Russian Medical Journals.—The number of medical journals at present published in Russia is 38. Of these 20 are published in St. Petersburg, 5 at Moscow, 4 at Warsaw, 2 at Odessa, 2 at Charkoff, and 1 at Kasan, Kieff, Saratoff, Woronesz, and Pultawa, respectively. The oldest of them all is the *Medizinskoie Obozrenie*, which is twenty-one years old; next comes the *Russkaia Medizina*, which is in its nineteenth year, the *Vratch*, which is in its fifteenth, being third.

Blindness in France.—According to the *Progrès Médical*, the total number of blind persons in France is about forty thousand. Of these eighteen thousand are said to owe their affliction to the results of ophthalmia neonatorum.

The New Elements, Argon, Helium.—The earth spirit allows us to see more and more of the fabric that falls from his whirring loom, and we may, perhaps, soon be able to gather the scattered threads together and behold the full beauty of the great design. After the Faraday Medal had been presented to Lord Rayleigh at the annual meeting of the Chemical Society on March 27th, his co-worker in the discovery of argon, Professor Ramsay, was called upon to speak. (*Lancet.*) He announced that in his endeavors to discover a compound of argon he had experimented with a rare earth—clevite, we believe—which was said to yield nitrogen when acted upon by sulphuric acid. Instead of nitrogen, argon was evolved, but associated with it was some strange gas. On examination this turns out to be helium, the lightest of all the possible elements, whose existence, apart from the demands of chemical theory, had only been inferred from the line D_3 in the solar spectrum. It is the first of all the elements, for below this comes the hypothetical "protyle"—that pre-elementary cosmic stuff from which all the elements are supposed to have condensed. Although this small quantity of helium was only found a few days ago its existence has been confirmed by Professor Crookes, who has identified its spectrum, of which the most powerful line is that at a wave-length of 587.47 micro-millimetres. This line is almost identical with the well-known yellow sodium lines, and at first Professor Crookes thought that he had to deal with these, but all the magnifying power at his disposal was incapable of separating the lines into two, and careful measurement confirmed the suggestion that the line was no other than the D_3 line in the solar spectrum, attributed to an unknown element, provisionally termed helium.

Grave Robbery by Students.—Five students of the University Medical College of Kansas City were arrested, on November 23d, 1894, in Oak Grove Cemetery, in the act of robbing graves. The students were lodged in jail, but subsequently released on bail.

Intestinal Obstruction in Children.—Dr. Monti, after discussing the causes and general symptoms of intestinal obstruction in children, and accepting in the main the views of Leichtenstern, gives the following points as those which are of value in forming an opinion as to the site of the obstruction (*The British Medical Journal*): 1. In the lower part of the colon the first symptom of acute obstruction is painful colic, and the region of the abdomen in which the colic is first felt may afford some indication of the part of the colon obstructed. Vomiting does not occur until the colic has lasted for some hours or days; it is at first bile-stained then becomes foul, and finally feculent. Collapse sets in late; gaseous distention of the intestine begins in the colon, and at first it may be possible to make out that it is limited to the region occupied by the colon (flanks and epigastrium), but later the ileum also becomes distended, and the tympanites may reach a very high degree. In incomplete obstruction the symptoms are the same, but develop more slowly. Action of the bowels may occur, and be attended by temporary relief, especially of the tympanites. If the rectum be incompletely obstructed, constipation alternates with attacks of painful tenesmus, followed by the passage of small scybala. Circular constriction of the rectum causes the motions to be of small calibre. 2. Acute obstruction in the lower part of the ileum is attended with frequent attacks of painful colic, starting in the ileo-cæcal region. Each paroxysm of colic induces an attack of vomiting, the vomited matter being at first the contents of the stomach, but later fæcal. Collapse sets in early. The distention of the abdomen is most marked at first in the umbilical and hypogastric regions, but in time becomes general; it is not notably diminished by vomiting. At first several fæcal stools may be passed, but after a few days there is complete constipation. The quantity of urine is diminished after the first few hours or days, and there may eventually be suppression. When the obstruction is incomplete the colic may be as severe, and the movements of the coils of intestines perceptible. The degree of distention may vary greatly in a very short time, and this independently of the passage of a stool. The constipation, after lasting some days, may be succeeded by copious foul diarrhœa. 3. Acute obstruction in the duodenum or jejunum causes severe colicky pain, starting about the umbilicus and radiating toward the stomach. Vomiting comes on early, and is violent; the vomited matter is at first bile-stained, later it becomes foul smelling. Gaseous distention is slight, and is limited to the epigastrium. It may be very much diminished by vomiting, but collects again. The bowels may at first act spontaneously or after enema, but eventually there is complete constipation. Suppression of urine is established early. When the obstruction is not complete, the symptoms are similar but less severe. The colic is painful, and the vomiting, either in relation with the colic or independently, very frequent. The quantity of urine is diminished. There is no distention of the abdomen, and diarrhœa alternates with constipation. Monti considers that if a case is seen early much may be learned as to the probable seat of the obstruction by observing the way in which the tympanites develops.

Doctors' Unpaid Bills.—There is a law firm in the city whose business consists entirely of the collection of doctors' bills. One of the firm, curiously enough, is a constable.

"Does your business show that a majority of patients pay their accounts?" was asked of one of the firm.

"No. People have an idea that doctors get rich. If they do it is not from their fees. We have accounts from one doctor aggregating $43,800."—*Chicago Tribune.*

The Antiseptic Duel.—A curious account of the latest application of antiseptic surgery in duelling occurs in a recent number of the *Revue de Paris* in the novel entitled "L'Enfant de Volupté." The combatants enter a room in a house situated in the suburbs of Rome, and there find two surgeons busied in disinfecting the blades of the swords with a solution of carbolic acid in water, the odor filling the room. There is a table covered with bandages, dressings, vessels of carbolized water, and cases full of little glittering instruments of steel. The rivals strip to the waist, and the fight begins outside. One of them is wounded in the forearm, but so slightly that no dressing is required,

and the duel is about to be continued when the unwounded man inadvertently touches the ground with the point of his weapon. A surgeon instantly rushes forward with a sponge saturated with carbolic water and disinfects the blade afresh. In the next bout the same man is struck under the right nipple, but the point has touched a rib, which prevents it from penetrating. The surgeons then make pressure on the little wound, wash it with an antiseptic, put on a bit of pure strapping, and allow him to go on. In the last round the wounded man strikes his adversary full in the chest, and he falls back into the arms of his second. Presently the senior surgeon announces "penetrating wound of the chest at the level of the fourth left intercostal space, involving the surface of the lung." Perhaps in another encounter the novelist may advance a step further, have the candidates thoroughly scrubbed and disinfected overnight, and then despatched to their place of meeting in sterilized shirts.

The Oldest Man in the World.—A Frenchman now living in Russia is said to have attained the immense age of one hundred and twenty-six years. From a very interesting account of his life, just published in a Russian journal, it appears that he was born in Paris, on April 17, 1768. He has a vivid recollection of the "Terror." He joined Napoleon's army in 1798. He fought in the battles of Austerlitz and Jena, shared in the campaigns of Egypt and Spain, and finally was one of the four hundred thousand men who followed Napoleon to Moscow.

Are We Degenerating?— More than one recent writer is endeavoring to prove that the people of Europe are degenerating mentally, morally, and physically (*British Medical Journal*). Such views have been maintained by some of each generation of our forefathers since the time of Homer. Whether we are losing the delicacy of our literary and artistic tastes is too uncertain an inquiry, and if Europeans are diminishing in mental power they are certainly not diminishing in mental activity. The patience with which our studious youth submits to the often unreasonable exactions of examiners is a proof that at least they are willing and sometimes eager to labor under very heavy loads. But, leaving such difficult inquiries, let us rather take the data which the more exact observations of biological science have given us. Though the evidence is no doubt conflicting, the presumption that we are, on the whole, not degenerating seems to be strong. The working classes receive in the amount and purchasing power of their wages twice as much as they did fifty years ago; their food is better, and their houses healthier. In points of food, sanitation, and means of changing air and scene it may be safely said that every class now lives under better sanitary conditions than it did at the beginning of this century. Preventable diseases have much diminished; some, like scurvy and small-pox, have well-nigh disappeared; others, like syphilis, are milder in their attacks. The Registrar-General's reports also show a decrease in deaths from phthisis and scrofula. Studies in anthropology do not confirm the legend of giants in ancient times. It has been inferred from the size of old armor that the men of to-day are bigger than their ancestors. Broca maintained, from accurate observations, that the Parisians of the present time have larger skulls than those of the Middle Ages, but some of the skeletons of primeval man, especially those found in the south of France, have large and well-formed crania. Dentists generally hold that the teeth are now more prone to decay than formerly; but this may be owing to some change in the nature of the food, not entailing degeneration in other respects. It is well known that the average duration of human life has much increased, but this may be owing to greater care, better hygiene, and increased skill in medicine, adding to the lives of the more weakly members without increasing the tale of years of the healthy ones. During the controversy actively carried on about fifty years ago, as to the efficacy of bleeding, by some eminent physicians in inflammatory diseases, it was asserted that the type of disease had changed. Men could no longer bear the loss of blood as they could in previous generations. It is, however, to be noted that this assertion was made only by the advocates of phlebotomy, and only after experiments had proved that blood-letting could be discontinued without any increase in the mortality or duration of inflammatory diseases.

A great surgeon, the late Professor Syme, used to say that he totally disbelieved in this change of type, because men could bear surgical operations as well as they did thirty years before. That this also holds good of the present day is not wholly due to the mere improvement. We may safely say that men can bear up under severe shocks and injuries quite as well as they did in the last century. Considering the strain that modern civilized life exerts upon the nervous system, it would not be surprising if nervous diseases had become more common, though it has been found difficult to prove this by statistics. It has often been asserted that insanity is commoner than it used to be, but the studies of Dr. Hack Tuke and Dr. Rayner, which were noticed in these pages some time ago, tend to show that the increase in the number of the insane is due to the accumulation of lunatics in asylums, where they live longer under care than they used to. It appears, however, that the average number of recoveries in asylums is less than it used to be — an unwelcome piece of statistics somewhat difficult to explain. On the other hand, there are dangers to the healthy growth of some classes in our population which would be foolish to leave out of sight. The diminution of the rural population and of employments which harden the muscles, and the prevalence of intemperance in food and drink threaten to lower the tone of public health. In the large manufacturing towns we already see the results in a stunted and anæmic population. These sources of degeneration must be combated by putting in operation healthy influences, and teaching the people to attend to the laws of hygiene. On the whole, however, the healthy influences at work appear to be stronger than the morbific. So far from a general survey of society giving support to the belief that the rising generation are degenerating, the evidence appears to point to an opposite conclusion. The young people of our time are fonder of athletics than their parents were, and seem always to be creating more and more opportunities for out-door exercise. Such tastes are spreading from the upper and middle to the working classes, and the achievements recorded in the journals devoted to athletics and out-door sports show an actual increase in physical power. In running, jumping, skating, bicycling, swimming, and rowing there is no record which has not been beaten in the past ten years, as far as Europeans are concerned. In the beginning of this century people made much of Lord Byron swimming the Hellespont, but in our own day Captain Webb swam the Straits of Dover; and not long ago a member of our own profession, Dr. J. Daland, of Philadelphia, swam across the Straits of Messina. Girls in their teens now take much more healthy active exercise than their mothers or their grandmothers did, engaging in games or sports, such as lawn tennis, golf, rowing, and skating, which will have a good effect in the improvement of coming generations. The volunteer movement has had an invigorating effect upon our young men, and the prevalence of the military conscription upon the European Continent, though not without its evils, tends to cultivate physical strength, endurance, and manliness of character. Although causes are in operation which justly give rise to grave anxiety for the future there are as yet no serious proofs that the population of Europe is degenerating, and there are many gratifying signs of improvement.

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Original Articles.

MORNING DIARRHŒA.

BY FRANCIS DELAFIELD, M.D.,

NEW YORK.

Definition.—I employ the term "Morning Diarrhœa," to designate a group of patients who, either continuously or at intervals, have, during the morning hours, one or more loose passages from the bowels composed of fecal matter and of fluid.

Lesions.—As the condition is not a fatal one we have to judge of the probable condition of the colon from the symptoms. The large quantity of fluid in the discharges indicates a considerable exudation of serum from the blood-vessels of the colon. The occasional presence of mucus denotes a morbid change in the functions of the mucus-producing glands. The complete change in the character of the movements, which in some patients occurs within twenty-four hours, would seem to show that there are no structural changes in the colon, while, on the other hand, the persistence of the diarrhœa in some cases points to the existence of a productive inflammation.

Etiology.—The disease is seen in New York in a large number of persons of all classes. I have not been able to determine any satisfactory reasons for its occurrence.

The Diarrhœa.—The discharges from the bowels are of large size, of brownish color, and composed of fluid mixed with fragments of fecal matter. Their odor is often offensive. The discharges come with a rush and are often accompanied by the escape of wind. In the more severe cases there is also from time to time a discharge of mucus. The passages are painless, or are preceded by colicky pains.

Varieties.—1. The simplest cases are those in which there is only one loose movement every morning after breakfast. This may go on continuously month after month, and year after year. Or there may be intervals of formed passages, or of constipation. There are no disturbances of the general health. Most of the patients do not seek for medical advice.

2. Much more uncomfortable is the condition of those patients who, instead of one loose movement after breakfast have several such movements. This condition also may continue for years, or may only occur from time to time. These patients are liable to a number of additional symptoms. In some of them there is a well-marked feeling of exhaustion after the passages. The exhaustion is so great that the patients are good for nothing all the morning, and it is not until the afternoon that they are able to attend to work or business. In others the colicky pains before the passages are very troublesome. The patients get up every morning with the knowledge that after breakfast they will have to go to the water-closet a number of times and in addition will have to suffer more or less pain. Instead of the colicky pains there may be a fixed pain referred almost constantly to some one part of the colon. This pain is so severe and so constant that it may lead to the suspicion of cancer, or of appendicitis.

Mental and nervous disturbances are associated with morning diarrhœa in two entirely different ways. First, There is a nervous condition caused by the diarrhœa, and which disappears when the diarrhœa is cured. The condition is that of apprehension, of fear. The fear may be of cancer, of peritonitis, of appendicitis, or of some other definite danger, or it may only be the feeling of fear without any special object. Second, There is a nervous condition which is not caused by the diarrhœa, but which makes the diarrhœa much worse. It is an irritability belonging to the individual, of such a character that any anxiety, or trouble, or fatigue will bring on the diarrhœa. In some patients the treatment of the diarrhœa is rendered hopeless by the frequent relapses due entirely to such a nervous condition.

3. As the disease becomes more marked the loose passages occur earlier in the morning. The patients wake up at four, five, or six o'clock in the morning with the feeling of an impending movement of the bowels. Then they go on to have several loose movements both before breakfast and after. The exhaustion and discomfort of the patients are very much increased by this early occurrence of the diarrhœa.

4. In some patients there is added after a time a sort of relation between the stomach and colon of such a character that whenever food is taken into the stomach there is a movement from the bowels. This is very annoying, for the patients are obliged suddenly to leave the table during the course of every meal.

5. The occasional presence of considerable mucus in the discharges belongs to the cases which last the longest and are the hardest to cure.

Treatment.—If the disease occurs in women, before beginning any medical treatment it is important to have cured any lacerations of the perineum or the cervix, displacements of the uterus, or disease of the Fallopian tubes which may exist. The methods of treatment which are ordinarily employed are:

1. *Change of Climate.*—The effects of this are often very satisfactory and in the milder cases very prompt. A person who has a morning diarrhœa for months may leave New York in the afternoon and the next morning begin to have formed passages. Unfortunately a return to the city may be followed by a return of the diarrhœa. In the more severe cases a prolonged residence in a dry inland climate may effect a cure.

2. *Diet.*—The plans of diet usually followed are: *a*, An exclusive diet of milk; *b*, An exclusive diet of beef and hot water; *c*, A diet composed of milk and meat alone; *d*, A diet from which only the sugars and starches are excluded.

As regards the effects of treatment by diet we find: that some patients are cured, some are benefited for a time, in some there is no effect at all, some get worse.

3. In a small number of cases the diarrhœa can be cured by daily lavage of the stomach.

4. *Drugs.*—As a rule, the number of the passages can be checked for a moderate length of time by the preparations of opium. The improvement only lasts while the opium is taken, and it is evident that the use of this drug ought not to be continued for any length of time. The subnitrate of bismuth, the subgallate of bismuth and beta naphthol bismuth are said to give good results. I have not been very fortunate with them. Salol and naphthalin answer well in some cases, but have absolutely no effect in others. Arsenic, quinine, ipecac, belladonna, and cannabis are all very useful drugs. The drug which has given me the best results is castor-oil in doses of from five to ten drops.

PERNICIOUS DELAY IN SURGICAL CASES.

PRESIDENTIAL ADDRESS TO THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

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IN casting about for a subject that would interest a body made up of medical and surgical components one naturally explores the border line where these two departments of our common science meet.

Appendicitis, so long found only in the medical side of our hospitals, is now peopling the surgical ward; while diphtheria is losing some of its surgical aspects in the advent of antitoxin, and it may not be Utopian to prophesy that the twentieth century will find an amalgamated physician and surgeon, whose hobby will be a Pravaz syringe, sired by instrument-case out of medicine-chest. The rendezvous of physician and surgeon is with local lesions rather than constitutional troubles, the vast majority of surgical troubles having their start in spots, and by the laws of their existence requiring time to spread from their point of origin to the system at large. Indeed, disease generally begins in one spot; the reason for our not appreciating this more thoroughly is that until we have evidences of constitutional infection, as in the eruption of exanthemata, our attention is not called to it; not until it has smuggled itself past the ports of entry are we able to lay hands on it and possibly arrest its progress. It is true the glandular system, in many instances, plays the part of quarantine, restraining, and perhaps building up barriers against infection, but with how much greater security could we act if we could pounce on the invader just as it reached our shores, before it set its poisonous foot upon the land, and fulfil the time-worn axiom, "Prevention is better than cure." We can scarcely hope that in our day and generation our power of diagnosis will be so accentuated that we can detect the very first lesions of cell life in time to eradicate the offender before it has involved its neighbor or its children's children in the subtle meshes of disease; we may still have to stand powerless before this Moloch we call prodromata until the score of pirates have grown to a great host, well on their way to the capital of the human republic; but with surgical diseases, accidents, and foreign growths their *début* is more marked and sooner realized; macroscopic rather than microscopic, tangible, capable of early eradication, and as serious in their demands as a foreign body in the larynx or the stoppage of hemorrhage.

As a border-land disease consider syphilis, with its local and constitutional phases. Take the so-called initial lesion of syphilis as an example. We know that chancre is not the true initial lesion, but the fruit of a lesion received some weeks before. We know that there is more or less constitutional infection already, but is it not good surgery to eradicate at the outset, or as near it as possible, at so slight a cost of tissue and risk, this plant whence further infection, like the proceeds of a baneful distillery, are distributed over the whole lymphatic system? We may not check it, but I fail to see any argument that prohibits us from stamping out the undeveloped possibilities of the sore. One is justified in waiting for developments for diagnosis, on the same principle as he might keep a dog-bite untouched in order to assure his patient that he had or had not hydrophobia. Such men as Jullien, Auspitz, Unna, Kölliker, Ehlers, and all, except Neumann, who took part in the discussion of Ehler's paper before the Tenth International Medical Congress in Berlin, 1890, believed in the theoretical possibility of either aborting syphilis, or rendering its course milder by excision of the chancre. Therefore, if authorities like Fournier believe that excision gives an average of one success in five, is it not pernicious delay to await developments and put diagnosis on a pedestal while the true end of our profession, treatment, goes begging?

Another local trouble that finds its often too tardy way, *via* the family physician, to the surgeon's hand is cancer. By the time the patient has hesitated to call her doctor's attention to her breast, plus the time the doctor has exhausted his internal and external applications, the lump has ceased to be a purely local trouble but is winding its devious and dismal path toward structures more essential to life than the breast-gland. Even here surgical science is not baffled. Halsted has lately shown the remarkable results in fifty cases of but six per cent. local recurrence, though the axillary gland had become more or less involved. He says:

"I sometimes ask physicians who regularly consult us why they never send us cancer of the breast. They reply, as a rule, that they see many such cases but supposed that they were incurable. We rarely meet a physician or surgeon who can testify to a single instance of positive cure of breast cancer. The conscientious physician could not under such circumstances advise his patient to be operated upon, and he was justified in treating her with salves and internal remedies. But now we can state positively that cancer of the breast is a curable disease, if operated upon properly and in time. I cannot emphasize too strongly the fact that internal metastasis occurs very early in cancer of the breast, and this is an additional reason for not losing a day in discussing the propriety of an operation."[1]

That which is true of malignant disease of the breast is accentuated in like affection of more vital parts. "If any rule could be discovered for determining the approximate time when glandular infection is to be expected in malignant disease it would be of great service, but that period is so variable and the data so uncertain," says Curtis,[2] "that we can only predict it in the most general way." Yet physicians conspiring with patients let the cervix break down, the tongue ulcerate, or the testicle fungate before they are willing to seek surgical advice, and it is just such late operations that, failing in cure, cast opprobrium on our profession and make the laity less willing to undergo operation, quoting failures among their own family or acquaintance as justifying themselves. That the demurrage is due to selfishness I am unwilling to admit; that the physician desires to retain the case altogether in his own hands, and to receive thirty pieces of silver as a Judas, is beyond comprehension; but no matter whether the cause for delay be selfish or magnanimous, it is pernicious all the same because in the interim local lesions become constitutional and beyond the pale of operation.

Don't for a moment mistake the perhaps necessary delay, in getting your patient in the best possible condition for operation, for pernicious delay. A surgeon who wishes to take a pound or more of flesh from next the patient's heart on introduction might well be arrested for carrying concealed weapons. I plead not against conservatism but against procrastination, against the expectant treatment gone to seed, against fallacious excuses, as doubt as to diagnosis, etc. Gentlemen, the knife in these aseptic days is to the clean surgeon often what the stethoscope is to the physician; properly conducted incisions mean a definite and innocuous certainty instead of hap-hazard, *a priori*, surmises, and has the advantage of the instrument of Laënnec in that the scalpel is not only for diagnosis but is synchronously a cure.

Why, then, should we seek to illuminate the tissues with the brilliancy of our guesses, run the whole gamut of perhapses, that may have been justifiable in pre-aseptic days, when we have in our hands the means of rendering surety doubly sure, and, like Moses's rod, transform the flint into lucid streams by the mere stroke of a deft right hand?

[1] Annals of Surgery, November, 1894, p. 513.
[2] MEDICAL RECORD, February 16, 1895.

Has aseptic surgery brought with it any temptation to pernicious delay in the treatment of wounds? It has—one I feel myself sometimes. All of you, who do any surgical work, whether as a specialty or in general practice, know what care and preparation must be taken to insure the desired results in your ideal wounds—even more in your suspected wounds—and with what mental satisfaction you see the finished product of your conscientious work (for you must have a surgical conscience to insure the letter and spirit of the law) in the limb, for instance, at rest with its proper strata of dressing. Then your thermometer becomes your guide, philosopher, and friend, a surgical compass; and you watch the possible variations due to fibrin-ferment fever with complacency until it is time for that to cease. Now comes the temptation to pernicious delay. When the temperature rise ceases to be explained in truth by that subtle metamorphosis of wounded tissue at the point of injury or operation, do you not sometimes strain your fibrin-ferment's reputation a little and try to excuse that variation on grounds which you endeavor to convince yourself are only transitory? Instead of recognizing at once that through some fault, perhaps in your technique, or some factor in your wound, you are dealing with pus infection, and what you should do is to remove that dressing now, drain, and if you cannot prevent suppuration, prepare at once for its treatment on old if not as self-commendatory lines. Delay in recognizing your mistake or your misfortune is pernicious, and it is better to blush at pus exposed than to endeavor to hide your error beneath a mass of dressing that does not pale the blush of inflammation nor stifle the tell-tale temperature chart. I believe if we are sensitive on this point, willing to accept the verdict of the thermometer, we can often close our suspected wounds and have them heal by blood-clot or per primam, when pernicious delay at the outset would allow them to suppurate, or delay in recognizing first evidences of suppuration a little later endangers the patient's life.

See how the front is changed in treating gangrene. "The line of demarcation, the line of demarcation," was the shibboleth in every case. Men hesitated to amputate, and some went so far as to let Nature do the whole operation. Senile gangrene was allowed to carry off patient after patient, while the surgeon stood helplessly by, or busied himself in relieving pain or mitigating odors as this black death wound its putrid coils around the foot and limb and beckoned the clear-minded but rotting sufferer to a grave that presented all the horrors of anticipation. Now the dictum is, amputate high up outside the zone of infection, and beyond the vitiated arteries, if the general condition admit. So in spreading traumatic gangrene, "there is perhaps no affection in the whole domain of surgery which demands such prompt interference in order to avert impending death."[1]

There is a delay that is pernicious in the treatment of fractures. Men are indisposed to put them up in fixed dressings on account of the liability to swelling and possible gangrene, but I think I can state a general principle that will cover these cases. A fixed dressing may be applied to any fracture at the outset that admits of a fixed dressing at any time during its treatment, provided sufficient cotton wadding or padding be used at its first application to prevent pressure on prominent parts, and provided said dressing be split down the front immediately after its application. By this means ample room is made for any swelling which is not desirable in itself and the limb is allowed to expand in the expansive case. To put on a splint and keep removing it is the worst possible surgery; a fixed plaster, starch, or other hard encasement is the secret of success in treating fractures, with fenestra if infected, reducing the circumference if the limb shrink.

To surgeons of the early part of this century the cavities of the body were cabinets of mystery containing organs of which they knew a little, and surrounded by that uncanny vail of serous membrane that seemed to be tinder in the presence of inflammation. It was no wonder, then, they hesitated to convert a simple depressed fracture of the skull into a compound one to make sure there was a fragment pressing on the brain. They feared suppuration, rightly perhaps, more than they did doubt; they use the expression, give the patient the benefit of the doubt—a doubtful benefit, then, a positive injustice now. What more pernicious than delay in head injuries, of the vault for instance, than to await the appearance of late symptoms to decide between concussion and compression, or more pernicious than to allow a depressed bone to remain depressed until epilepsy or cerebral abscess point out our mistake? Can anything be simpler than to enlarge your scalp wound, if compound, or make one if in doubt, and see the surface of the skull, and then decide as to whether trephining shall or shall not be done? If your technique is perfect—and with the simple means of disinfection, anyone can acquire ascepticism who religiously cultivates it—you have done your case no harm should you find nothing. You have saved a life perhaps if you have not merely trusted to luck and have treated the condition you have found presenting at the bottom of your wound.

The cavity of the thorax, thanks to the mechanical action of heart and lungs, together with the illuminating genius of Laënnac, was opened to the medical fraternity at an earlier date than the cranial or abdominal cavity; but paradoxical as it may seem, the very conditions that make diagnosis surer render treatment, at least surgical treatment, less efficient. The heart is much more a stranger to the scalpel than the brain, and operations on the lungs do not compare in frequency with the thousands of laparotomies done monthly. In spite of this statement the abdominal cavity is the great guess centre for the general practitioner, and is the object of more pernicious delay than all the other parts of the body put together. From the fact that it is lined by the awe-inspiring peritoneum, with its rapid absorptive power, containing a battery of flexible tubes as essential to life as are the convolutions of a boiler to the steam-engine, that it is menaced by fears within and foes without in the form of microscopic amœba coli and bacillus commune to the tangible appendix and the hernial rings, that its action for evil in intestinal lesions is even more rapid than its continuous action for good in health—all these factors, I say, render it, *par excellence*, the most dangerous field for delay, a very prairie where a spark may kindle a conflagration in a moment. Let me here protest against closing the vistas of diagnosis by the indiscriminate use of opium. As if the abdomen were not sphinx-like enough in its symptoms, we mask our eyes and muffle our ears by checking pain, one of the most important means for differential diagnosis, and bask in the mist of a fool's paradise, fancying that because we have quieted our sentinel we have overcome the enemy. Whenever it is possible, then, unless shock is so severe that you cannot, avoid opium until you make your diagnosis at least, and then it becomes a boon. There is no drug in the whole list of medicines that is so great a blessing, rightly used, and none so contributing to pernicious delay than the poppy and its derivatives if misapplied.

There is only one way to be certain of what is going on in the abdomen, and that is by exploratory incision in grave cases, and in this class laparotomy presents less dangers under modern technique than uncertainty, and I mean by that an operation done in time, not a sort of ante-mortem examination after shock and sepsis have wrought their deadly work on one who has called on you for help. What can you do by guesswork, or by delay, or by manipulation, or by opium, or even by the legitimate mechanical means of injection, or massage, in volvulus, or intussusception, or constricting bands, or strangulated hernia, or malignant growths, or gall-stones, or penetrating gun-shot wounds by large missiles,

[1] American Text-Book of Surgery, p. 55.

especially if standing two feet from the body you profoundly guess at the contents and action of a cabinet full of secret springs and wheels within wheels? You must overcome your prejudices against the scalpel just as your fathers did theirs against the microscope, and your grandfathers against the stethoscope; but together with your prejudices you must lay aside your old notions of "laudable" pus and embrace the idea of damnable pus. The latter half of the nineteenth century has done nothing for you in surgery if you retain the methods of the earlier half. Lister has lived in vain for you, Pasteur has labored in vain for you and your *clientèle*, Koch has astounded you in vain, unless you, as an individual operator, carry out the results of their laboratory and clinical work. Far better *is* guesswork, far better trusting to Providence, or opium, than to attempt modern operations with old methods, when the hand of the surgeon was more baneful than the serpent's tooth because of its intelligence devoid of knowledge which has since made it beneficent. You may say, Gentlemen of the Faculty, "that this is a twice-told tale. We all know this." Gentlemen, I reply, you do not act on it. There is no surgeon in this room, I venture to say, that has not had experience in operating for strangulated hernia, through a medical man who has dillydallied and procrastinated and perniciously delayed the operation until the patient was past praying for, and been greeted on opening the sac with a gush of feculent contents, the stinking fruit of unpardonable delay. This very physician is possibly versed in the learning of the Egyptians, *au fait* with aphorisms of the school of Salernum, conversant with the life and times of John Hunter, more or less a user of the various ols and ines that flood the present drug-room, and yet so repugnant has the term operation, or so confiding has he been, even in mechanical cases, in the formula of the Pharmacopœia that he has stultified himself by attempting to substitute the day of salvation for the morrow of disaster.

Some months ago, in discussing laparotomy in perforating abdominal wounds, I was unwilling to subscribe to the dictum that *all* penetrating wounds of the abdominal cavity require laparotomy, not that I have any objection to the operation *per se*, if we content ourselves with simply opening the abdominal cavity and viewing its contents. It is rather because I feel that in small penetrating wounds, as after small shot, or a minute stab, we are in imminent danger of causing fecal extravasation from moving the bowel around in our search for minute openings, which, if left severely alone would close themselves either by extravasation of lymph between adjoining coils or by inversion of the intestinal coats before such untoward result took place. Of course this obtains only in lesions so small that the danger of extravasation is minimized if left alone. In by far the vast majority of cases of intestinal wounds, operation is called for at once, not waiting for sepsis to nullify our work.

If delay in beginning such an operation is pernicious what can be said of delay in finishing it? The more rapid our work is done in conjunction with thoroughness the better; hence we should not hesitate to accept any mechanical means, as Murphy's button or Senn's plate, instead of the longer shock-producing sutures so difficult to apply. We must not allow the bugbear of records to stand in our way even in desperate cases.

The proper treatment of appendicitis is a touchstone of a man's capacity, and I know of no law that covers each case, as each one presents problems to be grappled with individually; but, in a general way, appendicitis may be divided into the fulminating, the acute, the subacute, and chronic or recurrent varieties. There are two periods in appendicitis that may be called times of election: The first is before pus is formed and is at the outset of the disease, no matter what variety it may assume; the other is after the lymph-walls have enclosed the pus that has accumulated. Between these two conditions there is a time of excessive danger to the operator, *i.e.*, when pus is forming, and yet the barriers are not sufficiently strong to admit of any disturbance without risking the infection of the whole abdominal cavity. This is the time when most surgeons are called in, after the diagnosis is made by the physician, who has perhaps not had sufficient data to be certain before or has masked the danger signals by opium.

Fowler, in his excellent paper based on one hundred and sixty-nine cases, personally observed, divides acute appendicitis into four stages, according as the tunics of the appendix and its neighboring tissue become involved—endo-appendicitis, parietal appendicitis, peri-appendicitis, para-appendicitis. He goes on to say: "In addition to the fact that the disease may run through all four stages within three days, and the first three stages in forty-eight hours, there are especially dangerous conditions that may supervene or accidents which may occur even when the inflammation seems to be limited to the mucosa or submucosa."[1]

In regard to treatment, he says: "While the physician is generally first summoned to a patient suffering from appendicitis the responsibility of the treatment should be shared both by the physician and surgeon. The majority of cases should be treated surgically. Beyond the careful use of salines in the very commencement of the disease, and this only if the symptoms denote a mild type of the affection, the less medical treatment which cases of appendicitis receive the better. Above all things, the use of opium must be avoided as much as possible. Its use masks the progressive character of some of the important symptoms; with free use of the drug the patient's condition seemingly improves, but a sudden increase of pain followed by distention of the abdomen, accompanied by or followed by a rapid pulse and some rise of temperature, announce the occurrence of septic peritonitis."

It should not be forgotten that an exceptionally virulent infection may produce septic peritonitis with neither primary perforation of the appendix into the peritoneal cavity nor rupture of an abscess cavity. Delay in operative interference in such cases will certainly result in disaster, and interference may fail to save the patient.

The indications for operative interference during an attack of appendicitis may be summed up in a few words. As soon as the diagnosis of progressive appendicitis is assured the abdominal cavity should be opened and the appendix removed. If opium has been injudiciously administered and the progressive character of the case in hand is doubtful, it is better to err upon the side of safety and remove the appendix at once. The conditions present are usually beyond the power of nature to remedy, while in the hands of a surgeon who pays strict attention to aseptic detail of the operation the latter entails less risk to life than that which is involved in even a mild attack of appendicitis, which remains stationary at the end of twenty-four hours, with all its possibilities of lymphangitis, infection of the peritoneal cavity, retained muco-pus within the tube, and rupture of the latter into an unprotected peritoneal cavity, or ulceration and perforation, either from the presence of so-called coproliths or inspissated fecal matter imprisoned by constriction within the cavity of the appendix, or from gangrenous conditions alone.

In formulating a definite rule for action in the operative treatment of appendicitis many difficulties are met with. To operate too early may be to operate unnecessarily; but this is always preferable to operating too late, and hence unsuccessfully. The fact that operative procedures are quite safely performed when a distinctly outlined and encapsulated abscess cavity is present, provided the surgeon does not disturb its wall, has led Riches and Schmit, of Versailles, to adopt this pe-

[1] Annals of Surgery, vol. xix., No. 1, p. 8 et seq.

riod as the stage of election. These surgeons content themselves with simply emptying the pus cavity. On the other hand, many surgeons advocate operation as soon as the diagnosis of appendicitis is made, whatever its grade of severity.

A case demanding operation inside of twenty-four hours from the commencement of the attack is exceptional; but a case which is not practically well at the end of that time should be made the subject of operative interference. The surgeon should by no means limit himself to that period. (McBurney reports 14 recoveries by operation in 24 cases of general peritonitis after appendicitis.) In cases in which unusually severe symptoms, such as high temperature and a succession of rigors are conjoined with exquisite tenderness in the right iliac fossa (fulminating), and an anxious facial expression, the surgeon should not hesitate to give the patient the benefit of an early and radical operation.

When the patient is not seen by the surgeon until the third, fourth, or fifth day of the attack, the question as to whether or not operative procedure may be contra-indicated by the impossibility of removing the appendix without breaking down the adhesive barrier which has been thrown out, is one which is frequently encountered by those engaged in this class of work.

As very tersely stated by Richardson, we may be confronted by cases which are in such a condition as to be too late for the early operation and too early for a safe late operation. In deciding the question much will depend upon the experience of the operator, and the facilities which he may possess in the shape of skilled assistance and other requisites to meet all emergencies as they arise.[1] J. B. Deaver[2] says: "The first and most important of all is the necessity of early operation for those cases of acute appendicitis, whether in the initial attack or in an acute attack supervening upon a chronic appendicitis not immediately yielding to judicious purgation. The ravages of this affection are so rapid and so fatal that I can hardly express myself too strong upon this point."

The general trend of surgical opinion may be summed up in the opinion that in the fulminating form of appendicitis an early operation is demanded; that in the acute variety, that does not show marked improvement early, an operation is indicated. In the stage of abscess formation prior to the building of secure lymph partition, opinion is divided, with a leaning toward operative procedures by men sure of their technique and masters of the surroundings; that in the condition where we have abscess formed, well hemmed in by walls, the evacuation of the abscess, with or without the enucleation of the appendix, is the proper procedures. With chronic or relapsing appendicitis we have nothing to do in this paper, except the general principle to operate at the earliest indications. In all our dogmata we must bear in mind the two variables, the judgment and skill of the operator and the personal equation of the patient.

Time prevents the consideration of dangerous delay in other systems, as the genito-urinary or the portal, etc. For those who are beginning to detect evidences of pernicious delay, in ending this paper I must not bring it to a close before I remind them that there are certain tones that hold their tension all along the ages and echo through the corridors of time. Their key-note is either the despair of desertion or the ecstasy of deliverance. The individual, the me or mine, is perishing or saved. Can any wail be more human than that of Calvary? "Eloi, Eloi, lama sabachthani—My God, my God, why hast Thou forsaken me?" Can any ecstasy be more celestial than that trite shout of the Highland lassie before Lucknow, "Dinna ye hear the slogan?"

Night and day, my *confrères*, you are called on to save the individual. For God's sake let him not cry to you as a *Deus ex machina*, "Eloi, eloi, lama sabachthani," but bearing in your hands the fruit of ripened experience and faithful study, let your footfall, heralded by no pibroch, accompanied by no banners, saluted by no artillery, muffled, perhaps, by the snow-flake, be unto him as early, as opportune, as health-giving as was Havelock's relief to Lucknow.

[1] Loc. cit. [2] Medical News, December 1, 1894.

THE SEXUAL CRIMINAL.

By JAMES WEIR, JR., M.D.,
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THOUGH a firm believer in polygenesis and the multiple inception of the human race, I, nevertheless, hold that pithecoid man, everywhere throughout the world, was, anatomically and structurally identical. All prehistoric skulls, whether unearthed in America or in the Old World, show that man was dolichocephalic or long-headed. They also show that primitive man was prognathous and that his orbital arches were greatly enlarged and developed. The structural characteristics enumerated above are also found in the primitive races yet inhabiting the earth, and most marked in those races that rank lowest in the scale of human intelligence and social economics. This latter fact is to be expected, for it is an acknowledged conclusion that the lower a race is in point of intellect, the nearer that race is to its primal ancestry. Again, the phenomenon of atavism or reversion teaches us—a mesocephalic race—that our savage ancestors were long-headed and prognathous; for, in the congenital criminal, emphatically an atavism, we plainly see an individual, anatomically and psychically, closely akin to the savage and barbarous peoples from whom we have been, unquestionably, evolved.

The white sexual criminal, and throughout this paper, I mean by sexual criminal, the individual who commits rape, shows, very plainly, to the eyes of those who are versed in such matters, the signs of physical and psychical degeneration. He may have been born degenerate with a bias toward criminality stamped indelibly on his psychic being, or, through excess, he may have engendered certain pathological conditions in his physical organism which make him tend toward antisocial acts. The white congenital sexual criminal commonly presents certain marked physical characteristics. I have personally examined two white men who had been guilty of rape and both of them were dolichocephalic and prognathous. Their orbital arches were greatly enlarged and their cheek-bones high and prominent. Their genetalia were abnormally developed, and the growth of hair on their bodies rank and thick. Both of them had fair hair and both had malformed ears; in one the lobes were long and pendulous, in the other there was complete absence of the antihelix. Both were below the average in point of intelligence. Says Ottolenghi of the sexual criminal: "On the whole anomalies of the genital organs have, in sexual offenders no small diagnostic importance, especially when united to other characteristics which distinguish them from the honest and criminals in general, as the greater frequency of fair hair, of malformed ears, of bichromatism of the iris, of blue eyes, of twisted noses, of facial asymmetry, of voluminous lower jaws, and of various neuroses, especially epilepsy." These men knew that they would probably suffer death in consequence of their crimes, yet, imprisoned and safe from mob violence, they became jovial and light-hearted, for all the world like children who had escaped, for the time being, well-merited punishment. The child-like nature of savages is well known, therefore I wish to emphasize this fact in these two criminals, for it tends to show the truth of that which I have declared before, *i.e.*, that the white sexual offender is, in the vast majority of cases, an example of psychic atavism.

Love is an unknown emotion both to the violator and to the savage; they are both instigated by lust.

In discussing the sensuality of criminals Havelock Ellis says: "Love, in its highest and strongest forms, seems to be extremely rare." When a man was asked if he really loved the woman for whose sake he had murdered her husband, he replied: "Oh, if you had seen her naked!" I asked one of the sexual criminals examined by me if he loved his victim. "No," he replied; "but her legs were very beautiful."

The criminal is perfectly well aware of the fact that rape is an anti-social act and that it will be severely punished, yet his savage lust, held in check by no moral restraint, will lead him to commit the act if opportunity offers, and he thinks that he can escape punishment. He will commit rape not only once, but many times if he can escape apprehension. I have in my possession a sketch of the skull of P. J——, a criminal, who, it is believed, raped no less than five different women. An engraving of this skull can be seen in my article on "Criminal Anthropology," in the MEDICAL RECORD, issue of January 13, 1894. This skull points, beyond a shadow of a doubt, to an atavism or reversion to an ancestral type. The Neanderthal skull and the skull of the Man of Spy, both prehistoric skulls, are startlingly like the skull of this modern violator.

False sentiment as well as the law declares that all men are brothers. Science declares that such a conclusion is absurd and fallacious. There is too marked a difference between the dolichocephalism and prognathism of the normal savage, the negro for instance, and the mesocephalism and orthognathism of the normal white man for fraternal relationship. I have pointed out the fact that the dolichocephalism, etc., of the white sexual criminal are abnormalities and the result of degeneration. The long head and the projecting jaws of the negro, however, are normal; they are anatomical characteristics peculiar to the negroid and other savage races. Again, the psychical abnormalities of the white sexual offender are occasioned by degeneration, while the mental habitudes of the negro violator are perfectly natural. It is time that mawkish sentiments were banished, and the negro placed in the category to which he belongs. The negro has had here in America some two hundreds of years in which to acquire civilization. What folly to place his psychical development on the same plane with that of the white man who has the advantage of him by several thousand years! Civilization, morals, are the result of evolution, of inherited experiences, therefore what arrant nonsense it is to suppose that the negro, who was a savage only yesterday, has become a moral and thoroughly civilized being to-day![1]

Native-born Americans, whose ancestors came from Great Britain and Europe, are remarkably free from the evil effects of degeneration, consequently the native-born white sexual criminal is of rare occurrence. The negro violator, on the other hand, is quite numerous, springing up everywhere in all of the Southern States, where his race is mostly domiciled. His criminality is not due to degeneration, but is the result of perfectly natural and, for him, normal mental habitudes. Let us study, for a moment, the psychology of this semi-civilized savage.

The childlike simplicity and happy-go-lucky carelessness of the negro, and I mean, throughout this paper, the true negro, not the half-breed, is notorious. The cares of to-day are sufficiently burdensome for him; he lets to-morrow take care of itself. Two hundred years of civilization have given him a thin, a very thin, veneer of superficial morality. In fact his moral nature about equals that of a white child five or six years old, who has no real knowledge of abstract ethics whatever. The negro cook who steals your flour, butter, sugar, and eggs does not consider her peculations to be thefts; she numbers such acts among her inalienable rights, though she is very careful to conceal as much as possible her petty rogueries. When she drops on her knees and asks God to pardon her, your butter, sugar, flour, and eggs do not form any portion of her burden of sin. The negro who robs your watermelon patch and your hen-roosts on Saturday night will be found Sunday morning in the deacons' corner of the sanctuary. His full, rich, sonorous voice will sound all the better in prayer and song, on account of the fat chicken and luscious watermelon that he has eaten before he donned his long-tailed coat and hied himself to church. His religion is pure and unadulterated superstition. God and the devil (Voodoo in some form or other), are equally objects of his superstitious regard.

The records of the police courts, wherever the laws against fornication are enforced, will show that the negro, both male and female, has little or no regard for virtue. Northern sentimentalists have declared that the slave-owning whites were to blame for this moral laxity. This is nonsense, for it is a well-known fact that three half-breeds are born to-day where there was one born during slave time, thus showing conclusively that the negro women voluntarily yield up their virtue. But why argue this question; the history of the world shows that the women of the lower races, wherever found, eagerly enter, as a general thing, into concubinage with men of the white race. The men of the lower races passionately desire the embraces of the women of the white race, and this accounts, in a measure, for the numerous rapes upon white women by negroes. The negro is rarely accused of committing rape on the females of his own race. The reason for this is found in the natural complaisance of the females of this race; the male being able to easily satisfy his desire without resorting to violence. For the same reason a white man is seldom guilty of raping a negro woman.

No amount of legislation will ever make people accept the negro as their social equal. Common-sense teaches them that he is their inferior, while science shows conclusively that he is of lower origin. Hence it happens that when a white girl is raped by a negro the disaster is simply appalling. She feels as though she had been dishonored and defiled by some monstrous beast; her moral courage is gone forever; her honor and her virtue can never be regained. These feelings are also entertained, to a certain extent, by her relatives, friends, and, in fact, by every white individual in the whole country.

Not long since, a young lady in a neighboring State was dragged from her horse, carried into the woods, choked into insensibility, and repeatedly ravished by a negro. She was found, half-dead, by a searching party late that night. Blood-hounds were put on the track of her assailant, he was caught, brought before her, identified by her, and at once hung. This young woman came near dying from her injuries, but finally recovered. She, however, never left her home again, but, soon after she was able to leave her bed, she went into an outhouse and hung herself. Her father came home, and on finding the dead body of his daughter seized his revolver and blew out his brains. The following night her brother drowned himself. Her relatives sold their real estate and personalty and left their native town forever.

The fear of the negro rape-fiend is general throughout the entire South. A remark of an aged negro shows me that this fear is by no means a baseless or groundless one. Said he to me, calling my attention to a young girl who was picking blackberries, "That girl is in danger. At this time of the year men's passions are hot. Some man might see her, seize her, and easily

[1] "One of the most generally applicable statements we can make with reference to the psychology of uncivilized man is that it shows, in a remarkable degree, what we may term a *vis inertiæ* as regards upward movement. Even so highly developed a type of mind as that of the Negro—submitted, too, as it has been in millions of individual cases to close contact with minds of the most progressive type, and enjoying as it has in many thousands of individual cases all the advantages of liberal education—has never, so far as I can ascertain, executed one single stroke of original work in any single department of intellectual activity."—Romanes: Mental Evolution in Man, p. 13.

drag her into that clump of bushes." This man, for the moment, forgot his superficial civilization and allowed me a glimpse of his real, savage nature. Had he been a younger man, and if this opportunity had offered, I have not the slightest doubt but that he would have seized the girl, dragged her into the clump of bushes which his lecherous old eyes had discovered, and ravished her.

I know a young woman who is compelled by force of circumstances to take long and solitary country rides. She never leaves home without placing a revolver on the buggy-seat by her side. In the South, women never go out after sundown without an escort. The violator and his savage lust is ever present to their minds. This is a fearful commentary on our boasted civilization, yet it is true in every particular. The sexual criminal, both black and white, is dangerous to society; so dangerous that the sooner he is destroyed the better it will be for society. The mad dog is not granted the formality of a legal trial before we blow out his brains. He is destroyed at once. The Malay who runs amuck is slain without mercy, society recognizing the fact that the end justifies the means.

It is by fear alone that the savage can be influenced. You cannot influence him by moral suasion, for he has no knowledge of morals; neither can you instil morality into him through the agency of punishments. The fear of death—sudden, violent, terrible—is about the only thing that will hold the sexual criminal in check and teach him that he must restrain his savage lust. The sexual criminal, both white and black, is a savage and should be treated as such. If the law is left to take its slow course, people become accustomed to the idea of that punishment which is eventually inflicted on the criminal and greet its consummation with indifference. But if the criminal is taken in the act of committing rape, or soon after, and is immediately punished for his crime, the lesson comes in the nature of a shock and is not soon forgotten. Punishment is meant, not only for the criminal, but for society also, and the more forcibly society is impressed by the punishment of crime, the more deterrent will the lesson become.

The question naturally arises: Does lynching act as a preventive and a protection against the crime of rape? My own personal observations, as well as those of many conservative men, both north and south, teach me that it does. For, if a violator is apprehended and lynched in a community, the crime of rape does not occur in that community for many years, or, if it does occur, the individual committing the outrage will be found to be either a stranger who has recently come into the community, or a young man who has reached maturity since the time of the last lynching. Statistics gathered from every section of the country show that a like result does not obtain when the sexual criminal is punished through due process of law. The lesson taught by lynching creates, beyond any shadow of doubt, a profound impression, and this impression remains tangible and vigilant throughout the lives of would-be violators, causing them to curb their lust and to pay a fitting regard to the laws of society. It has been urged, as an insurmountable objection to lynching, that many innocent men are put to death by the unreasoning mob, which, carried away by its passions, hangs the first suspicious-looking individual it finds. I have carefully studied the evidence in forty-three lynchings of sexual criminals and have found that the lynchers had, in every case, secured and hung the right man. These forty-three cases have occurred during the last twenty-three years and have been taken indiscriminately from all over the country. I have gathered my information concerning them from the most conservative and level-headed men of the communities in which the lynchings occurred, consequently, can safely assert that my conclusions are based on indisputable facts. Purists condemn the lynching of the sexual criminal, and declare that his lynching is, fundamentally, an illegal act, hence a criminal act. I hold that no act is criminal that benefits society. There is a higher law than the written law of man, the law of the preservation of species, coincidently of civilization. The crime of rape is distinctly atavistic, hence it is a menace to civilization, and should be suppressed no matter how.[1]

HYPERTROPHY OF THE PROSTATE.[2]

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HYPERTROPHY of the prostate gland is a condition which is frequently met with in males who have passed their fifty-fifth year. It is claimed by some authorities that the number of persons thus afflicted, amounts to somewhere about one-third of those living after the specified age has been reached, though it is not implied that all who are affected are necessarily conscious of the change that has taken place. The alteration which takes place in the size of the gland is of the nature of a hypertrophy or overgrowth only. Ashhurst claims that the analogy with ordinary hypertrophies ends here, as, unlike hypertrophy of the bladder or heart, the change in the prostate is apparently purposeless.

In dealing with this subject, it may be well first to dwell for a few moments upon the anatomy of the prostate and the surrounding structures.

The prostate is a gland composed of firm, elastic, and contractile tissue, lying between the bladder and the penis and perforated by the urethra. It is roughly compared to a horse-chestnut in form and dimensions. Its base lies uppermost in contact with the vesical sphincter, while its apex rests against the superior triangular ligament. In the erect posture its long axis is vertical and is about an inch and a quarter in length. Its weight is about the same as that of the testicle, and it has been noted that the active evolution of the two organs begins at the same period, that of puberty, and that the structural and functional development of the one is intimately associated with that of the other during the period of sexual vigor. The organ (according to Gray) is composed of muscular and glandular tissue. The muscular portion represents about three-fourths of the entire mass, and consists of the unstriped fibres principally, all of which is continuous above with the vesicle sphincter, and forming in the upper third of the organ a ring of great firmness and strength. The function of this muscular mass is, in all probability, that of intercepting the backward flow of semen and prostate fluid into the bladder during sexual congress. Below this point the muscle is intermingled with gland-tissue, and near the apex with a quantity of striated fibres. On rectal exploration the apex will be found about an inch and a quarter above the margin of the anus. This gland is also a circular involuntary sphincter to the neck of the bladder. It contains a small utricle (known as sinus pocularis), the male homologue of the uterus, at the mouth of which ejaculatory ducts open. The arteries supplying the prostate arise from the adjacent vesical, hemorrhoidal, and pudic vessels. These vessels are branches of the sciatic, which vessel has its origin in the internal iliac. The prostatic veins receive the dorsal veins of the penis and terminate in the adjacent vesical veins. The nerve supply comes from the hypogastric plexus. It might be added here that the ovarian arteries are the homologues of the spermatic arteries in the male, and correspond in their relation in the upper part of their course.

[1] If purists object, stating that such a law would be unjust and discriminating, I answer, that as long as society considers the violator to be a normal man and treats him as such, just so long will society be guilty of injustice and discrimination toward normal, healthy man. There is a higher and an unwritten law, which, fundamentally, takes precedence of established law; moreover, I do not consider that which redounds to the good of society either barbarous or savage.

[2] Read before the Northern Ohio District Medical Society, March 22, 1895.

As regards the etiology of prostatic hypertrophy but little is known. Injury to the prostatic region is said to have frequently resulted in hypertrophy. The one thing which seems to be essential to the existence of the disease is the advanced age of the patient. Stone of the bladder, stricture of the urethra, irritation by the frequent use of instruments, sedentary habits, gouty or rheumatic diathesis, and exposure to cold and damp have all been cited as predisposing circumstances, but none of these conditions has ever been positively shown to stand in a causative relation to the disease. On the other hand, there is no doubt that, when hypertrophy exists, any of these conditions may greatly aggravate its symptoms. Excesses in drink or in venery, prolonged voluntary retention, etc., are causes of increased prostatic congestion. Harrison in reference to the cause of this affection says, "Assuming that from any cause, such as long retention of urine, habit, position of the body, or the weakness connected with advancing years, the trigone or non-contractile part of the bladder becomes permanently depressed or altered in form, so that the person finds himself unable to get rid of the last half-ounce or so of urine, the effect will be frequently repeated efforts in all the muscles immediately adjacent to a part, which, by reason of its connection and structure, has but little power of expelling." He further states that this will eventually lead to the hypertrophy of the muscular fibres between the orifices of the ureters, the internal uretral bar, as well as to that of the muscular fibres so largely entering into the composition of the prostate. There are other conditions that are given as causative factors, but of the whole list not one can be said to be directly instrumental in bringing about this affection peculiar to man only.

In regard to the treatment of hypertrophy of the prostate, very little was even attempted that proved at all successful, until within the past two years. Hamilton, in speaking of the treatment, claims that it is only palliative at best, and must be conducted with reference solely to the symptoms as they arise. He also advises ten to twenty drops daily of the balsam of copaiba or five to ten drops of the spirits of turpentine. Druitt states that treatment is palliative only. He further states that the chief means of treatment is the catheter, and that by its use the bladder can be kept empty, thus removing what would necessarily prove to be an etiological factor. Harrison employed a similar method, only he tapped from the perineum through the prostate; he says that after this treatment he has seen the hypertrophied gland shrink, and the urine pass again by the urethra. He further states, that on the earliest manifestations of prostatic obstruction, mechanical treatment should be resorted to with the same diligence that is required in the treatment of other forms of urethral obstruction.

Within the past eighteen months the treatment of this condition has indeed turned completely about, and operators have ventured out in an entirely new direction. J. William White, in the *Annals of Surgery* for December, 1893, suggested castration as an advantage in the treatment of these cases, and it is to this departure in the relief of hypertrophy of the prostate that I desire especially to call your attention to-day.

In the *American Medico-Surgical Bulletin* of June 1, 1894, Dr. F. Fremont Smith, of Florida, gives the history of one case, admitted to the St. Augustine Hospital, aged sixty-nine, suffering from hypertrophy of the prostate. Internal treatment and douches were employed for a period of nearly six months. Patient had frequent attacks of acute cystitis which interfered with his sleep and appetite, and his weight was reduced from 165 to 135 pounds. Castration was performed January 17th, no local treatment employed, and on March 1st patient was discharged from hospital. His appetite had returned, his weight had increased to 163 pounds, and there was no longer any retention. He heard from the patient fifteen weeks after the operation that he had had no further trouble.

Again, in the *American Medico-Surgical Bulletin* of November 15, 1894, two cases are given where castration was performed and with marked success. The first case, a man, seventy-one years of age, suffering from hypertrophy of the prostate, with symptoms such as severe and painful desire to urinate, ammoniacal cystitis, rises in temperature, loss of appetite, all of which remained unchanged by palliative means. Castration was performed, both testes removed and wound healed without accident. At the end of two weeks, the prostate was one-third smaller, and in less than three weeks had shrunk to one-third its former size, and in five weeks it was of normal dimensions. Forty days after operation the patient's condition was as follows: Prostate normal in size, the bladder emptied at intervals of four to six hours without resorting to catheter, with no after dribbling. Patient's condition is excellent.

The second case, a man, eighty-one years of age, admitted for retention. Bladder extended to umbilicus. Catheterization impossible and urine withdrawn by suprapubic aspiration. Rectal examination showed prostatic tumor, size of orange. Cystitis became marked and patient's health began to fail. Castration was performed, followed by an almost uninterrupted recovery. From the day after operation the urine came more freely. Ten days after operation the prostate, per rectum, was distinctly smaller, and three weeks after it had practically disappeared; an ordinary silver catheter could be passed with ease.

So far as this form of treatment is concerned, I have had but two cases under my care in which castration was resorted to, and wish to report one of these cases, as it was of especial interest to me.

John G——, aged sixty-three; German; white; a widower; in physique spare; admitted to hospital of Ohio Soldiers' and Sailors' Home, May 24, 1894. Disability; hydrocele of right side, with associated hypertrophy of prostate and tumor of testicle; supposed to be tubercular. Urinalysis normal.

Past History.—Has had great difficulty in voiding urine for a period of more than ten years. Of late years has had to resort to the use of a catheter.

History of Present Disease.—About ten years ago the right side of scrotum became enlarged to the size of a goose-egg. Tumor remained unchanged until about four years back, when it began to increase in size, until it had reached the present dimensions. Has never suffered any pain from the tumor itself, but only inconvenience on account of its enormous size.

Present Condition.—The tumor of the scrotum now the size of fœtal head. By palpation we find slight fluctuation on right side. The left side shows nothing abnormal. No transmitted light.

Treatment.—The left side of the scrotum was tapped and twenty ounces of a semiclear, reddish-brown fluid drawn off. Although great reduction in size of scrotum followed at once, yet the left side remained more than twice the size of the right. An aspirator was attached to cannula and a quantity of stimulating fluid was injected into left side. Patient was then put to bed and an anodyne given.

Result.—The next day the scrotum was swollen to its former size and had become very red and painful. Tension became very great, and on second day the posterior wall of scrotum ruptured. The tissue surrounding the perforation showed positive signs of sloughing. Dressings were changed twice each day and scrotum washed out with bichloride solution.

June 2d.—The sloughing parts were cut away, tunica vaginalis having separated from other portion. The testicle was found in lower and posterior position, and septum very much indurated. Incision enlarged under cocaine to three inches in extent in order to excise remaining sloughs. Temperature, 103.4° F., pulse, 120.

June 11th.—Fever has continued during the entire time, patient becoming weaker each day, and discharge being profuse and very offensive. Consent of patient being obtained, decided to operate at once.

Operation.—No difficulty in administering anæsthetic, which was pure ether. Left scrotum was opened from external abdominal ring to ulcer posteriorly. Membrane dissected from septum and over the entire area including the testicle, to a level with pubic bone. Vitality was undisturbed at this point. Above this site the cord was tied *en masse;* the double ligature with the common hemorrhoidal tie was the mode adopted. The ends of the ligature were brought out and fixed at upper portion of incision. Drainage-tubes introduced and edges united by interrupted sutures.

June 12th.—Says that he feels much better, temperature, 100° F.; pulse quiet, 80 per minute. Feels very weak. Dressings were changed because of oozing. Parts cleansed with bichloride solution. Subsequently dressings changed daily on account of discharge of dark fluid and some pus.

July 1st.—Union of line of incision except at point where ligatures came out, and at point where drainage-tube protrudes. The discharge has almost ceased.

July 5th.—Ligature came away and the wound entirely healed. Patient discharged.

The fourth day after operation the patient told the nurse, that much to his surprise he had been able to pass some urine unassisted by the catheter. This condition gradually increased until the third week after operation, since which time he has not had the slightest difficulty in voiding his urine. He is to day an inmate of the Home, enjoying the best of health and perfectly free from dysuria or any complications resulting from operation. Rectal examination by finger gives a prostate gland much reduced in size, but possibly only atrophied on one side.

I have given this case not to show any result as following the operation other than the effect produced upon the enlarged prostate, and in honesty, I will admit that the atrophy of the prostate was not the point aimed at in the least in making the operation. But I am convinced of the beneficial effect to be derived from this procedure, and deem it, in all cases that will permit, the only course to pursue.

NITROUS OXIDE GAS IN PROLONGED OPERATIONS.

By CHARLES G. PEASE, M.D., D.D.S.,

NEW YORK.

As a substitute for chloroform and ether, in minor and major operations, we have in nitrous oxide gas an anæsthetic not only much safer than the two named, but entirely free from the unpleasant, depressing, and often serious sequelæ.

In ether narcosis the mucous glands secrete profusely, the stomach and fauces are filled with this secretion, and there is laryngeal and bronchial irritation. The cardiac exhilaration during the administration is followed by a corresponding reaction which is decidedly unfavorable to the patient. The ether being eliminated from the blood by and through the skin, lungs, and kidneys, acting as an irritant, tends to increase any inflammatory condition. A tendency to nephritis, plus the administration of ether, is, therefore, a serious matter. Experience has proved this to be only too true.

How many patients have never rallied from an operation under ether? Saturated with the anæsthetic, suffering from nausea, vomiting, sweat, frigidity, shock, the feeble patient is robbed of the vital force necessary to recovery.

With gas there are none of these conditions, and the return to consciousness is usually in less time than half a minute after the removal of the inhaler, and in the experience of the writer, who has administered the gas in many operations, the patient comes out of the narcosis as from a short nap, often joking and laughing, with no depression, or any unpleasant symptoms whatever.

The dangers of chloroform are too well known to be rehearsed here.

As narcosis can be prolonged under gas up to one, two, three, and four hours, with so much greater safety to the patient, and with no unpleasant sequelæ, it must surely come into more general use. The writer admits that he finds it far more tiring to administer gas than to administer the other anæsthetics. But that should have no weight in view of the great advantages to the patient. The cost of gas is also greater, but the patient pays the difference, and is glad to do it.

The writer's portable outfit consists of small cylinders containing one hundred gallons of gas each (condensed) with a convenient case for carrying the same, a gas-bag, tubing, and inhaler, with valves to admit air and shut off gas, and vice versa.

In the event of the failure of heart or lungs to perform their functions, the remedial efforts usually employed in such cases would be indicated, but the writer has never had occasion to resort to such means, as he has had no accidents with gas. Very nervous patients sometimes give a little trouble in that they are not quiet during the narcosis, and require to be held by the assistants.

Gas should never be administered to an alcoholic patient, and alcohol should not be allowed prior to the administration, as the patient is very liable to become disagreeably unmanageable.

In organic lesions of the heart, lungs, and kidneys, gas can be given with comparative safety, when other anæsthetics would be contra-indicated. The extent of the lesion, of course, would modify this statement.

The occasional cyanotic appearance of a patient might alarm a novice, but there is no occasion for anxiety, and the gas need not be pushed to that extent.

101 WEST SEVENTY-SECOND STREET.

How to Take Creosote.—Dr. C. W. Ingraham gives, in the *Medical News*, the following directions: "I give the patient a one-ounce bottle of creosote and an empty eight-ounce bottle. Upon the eight-ounce bottle I place the following label:

"'*Directions:* After putting in the correct number of drops, according to directions on the small bottle, fill with cold water and take the entire contents of the bottle during the day, in equally divided doses, at regular intervals. Make at least six or eight doses. Shake thoroughly each time before taking.'

"Upon the bottle of creosote this label is pasted: 'Put four drops in the eight-ounce bottle, and take according to the directions on that bottle. The second day put in five drops, and the third day put in six drops, etc. Continue to increase one drop per day, until twenty-four drops are taken daily. Do not increase beyond twenty-four drops without instructions.'

"One ounce of creosote will last the patient a full month at the beginning, but after the first month two ounces will be taken each month. Creosote in this form may be intrusted to the care of any intelligent adult, and I have never had an accident occur from the method. As the daily amount reaches from twelve to fifteen drops, it will require further dilution. The dose can be emptied into a glass tumbler and a sufficient additional quantity of water quickly added. By this method the patient has a fresh preparation daily, and when taken in this highly diluted aqueous suspension it is wholly non-irritant to the mucous membrane of the mouth, throat, or stomach. When desirable a small amount of some one of the vegetable bitters may be added each morning to the eight-ounce bottle, which will assist in stimulating the appetite."

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, May 11, 1895.

COMPARATIVE ILLEGITIMACY.

M. PAUL BOURGET, a gentleman dear to the literati for his skill as a novelist and analyzer of those phases of social life which have a dominant sexual trait, has written a book upon America. It has aroused the ire of Mark Twain, who has made a famous retort. M. Bourget had said, in his artistic way, that Americans, when they had any leisure, devoted it to looking up their grandfathers, and Mark Twain to this has replied that the French, when they have any leisure, spent it in hunting up their fathers.

Bourget has become thereby excited and publishes some statistics, which he gets from sources unknown, and which show, as he asserts, that the ratio of illegitimacy is greater in America than in France.

It is upon this point that we desire to make some criticisms ourselves ; for while M. Bourget is assuredly very clever as a verbal artist and portrayer of social complications due to exuberant erotism, he is surely not an expert in demography.

In France the birth-rate has diminished steadily from 26.7 per 1,000 inhabitants in 1872 to 23.04 in 1889, while in the year 1890 the total birth-rate was lower than it had been since 1854.

At the same time the illegitimate births are steadily increasing, and in 1890 amounted to 8.5 per 100 for France and 28.15 per 100 for Paris, whereas in England it is only 4.8 per 1,000 (Bertillon Laquean, *Bull. de la Académie de Médecine*, July, 1892). France has relatively and absolutely more bastards and fewer legal children born now than ten years ago. The ratio of illegitimacy in America, so far as is known, is about the same as that in Great Britain.

The marriage-rate in France is also steadily decreasing, being only 7.1 per 1,000 in 1889, as against 7.69 in 1884. The divorce rate has, on the other hand, steadily increased from 1884, when the divorce law was passed, the rate being 7.0 per 10,000 households in 1890, as against 6.6 in 1884.

The most striking phenomenon after all, however, about the Parisian is, not that he can't find his father (twenty-eight per cent. having none) but that he succeeds in getting born at all, for in this wonderful city, out of every 100 families, 32.3 have no children [1] (unless they are still births). Out of 60,000 babies born in Paris yearly, 20,000 are sent out into the country to nurse, and there thirty-eight per cent. die in the first year. So that if a Parisian is lucky enough to get fathered and then to find the father, he isn't out of his troubles, for he has hardly an even chance of growing up.

In fine, if M. Bourget sets out honestly to make comparisons between the social and moral conditions of Paris or France and America he can hardly fail to see that he is too badly handicapped by statistics to cut a figure pleasing to his national vanity.

[1] Laquean: Loc. cit.

THE SENSATIONS OF THE ANÆSTHETIZED.

DR. GEORGE WYLD describes in *The Lancet* his sensations on being chloroformed. He says : "I suddenly experienced the extraordinary impression that my spiritual being stood visibly outside my body, regarding that deserted body lying on the bed. Shortly afterward I called on three different professional chloroformists and asked them if any of their subjects had ever experienced sensations like my own? In reply one gentleman said, 'I have often heard patients express similar ideas.' Another said, 'I myself have experienced on three occasions, when under chloroform, exactly similar sensations.' And the third gentleman said, 'My patients have often said that they experienced no pain, but felt as if they saw with their inner eye all I was doing during the operations.' I was told of a patient who said after anæsthesia, 'I thought I had got at the bottom of the secrets of nature.' And a dentist told me that many of his patients had experienced similar sensations to those I described."

The late John Addington Symonds described his sensations thus : "I seemed at first in a state of utter blankness ; then came flashes of intense light alternating with blackness, and with a keen vision of what was going on in the room round me, but no sensation of touch. I thought that I was near death, when suddenly my soul became aware of God, who was manifestly dealing with me, handling me, so to speak, in an intense personal present reality. I felt Him streaming in like light upon me and heard Him saying in no language, but as hands touch hands and communicate sensation, 'I led thee ; I guided thee ; you will never sin and weep and wail in madness any more ; for now you have seen Me.' My whole consciousness seemed brought into one point of absolute conviction ; the independence of my mind from my body was proved by the phenomena of this acute sensibility to spiritual facts, this utter deadness of the senses ; Life and Death seemed mere names. . . ." Symonds adds : "I cannot describe the ecstasy I felt," and referring to his experience and its psychological evidence, says, "If this had happened to a man in an uncritical age would it not have carried conviction, like that of Saul of Tarsus, to his soul?"

Dr. Wyld refers to the testimony of others who experienced the feeling that matter was only phenomenal and that the spirit was outside the body. Undoubtedly a psychological study of the experiences of the anæsthetized would furnish interesting results. The feel-

ings are not like those of ordinary intoxication from alcohol or even opium. Hashish, however, sometimes produces similar disturbances. The common and especially unique effect is the disorder of personality, so that the individual feels himself spiritually disembodied and looking at his old material self as a thing apart. It is the best artificial realization of the religious conception of death and the departure of the soul from the body.

STRIPPING THE SEMINAL VESICLES.

SHORTLY before his recent and untimely death Dr. Bernard E. Vaughan published an article in *The Post-Graduate* entitled "Stripping the Seminal Vesicles for Diagnostic and Therapeutic Purposes." This article opened up a somewhat novel field of procedure and one that promises to be of decided practical value. Four years ago Mr. Jordan Lloyd published an article on the subject of spermato-cystitis in which he concluded:

"1. That spermato-cystitis, although seldom recognized, is not uncommon.

"2. That it is in many ways analogous to salpingitis in women.

"3. That it is usually secondary to urethritis.

"4. That suppuration is exceptional.

"5. That when suppuration occurs, the pus should be liberated by incision made from the perineum.

"6. That it frequently accompanies epididymitis.

"7. That it is frequently diagnosed as an inflammation of the prostate or neck of the bladder.

"8. Diagnosis can be easily made by careful digital examination from the rectum."

Subsequently to this, Dr. E. Fuller published two contributions to the same subject. Despite these articles, however, at the meeting of the American Association of Genito-Urinary Surgeons last June, few of the members present believed that they could diagnose diseases of the seminal vesicles, and some thought it impossible to strip them, as suggested by Dr. Fuller.

Dr. Vaughan reports twenty-eight cases in which he has made examinations and applied treatment for seminal vesiculitis. Six had acute seminal vesiculitis, four double. In two cases he found tuberculosis of the seminal vesicles. In nine cases there was a distended, pouchy condition, associated with a large quantity of seminal fluid containing pus cells and motionless spermatozoa. There were ten cases examined in which the normal seminal vesicles could be distinguished and the contents expelled.

Dr. Vaughan describes the method of examination. The patient, he says, should stand with his back toward the examiner, the legs separated, the body bent at the hips, at an angle of about 70°. The bladder should have been partially emptied, and the abdominal muscles relaxed. The examiner should sit in a chair to the left and behind the patient, and introduce the well-lubricated index-finger of right hand into the rectum, with the other hand over the pubes. With co-operation on the patient's part, in almost every case the prostate, seminal vesicles, and the vasa deferentia can be distinguished. If only for diagnosis, these can be gently palpated, and any change in form or consistency determined. If one wishes to empty the vesicles he does so by a stripping motion.

The method described by Dr. Vaughan has two applications: diagnostic and therapeutical. For diagnosis, the procedure is used—

(1) To decide the question of sterility in the husband before mutilating the wife.

(2) To diagnose suppurative process, as gonorrhœa and tuberculosis, by washing out urinary tract, strip vesicles, and examine microscopically.

The therapeutic application consists in—

(1) Emptying the distended sac where there is obstruction or loss of tone to muscle wall.

(2) Treatment of temporary sterility by emptying the vesicles of old products.

(3) Massage of vesicles to improve muscular tone and increase of blood-supply.

(4) In the treatment of those cases of chronic urethritis dependent on gonorrhœa of the vesicles, which urethritis starts up after coitus or nocturnal emission.

The most striking and apparent use of the stripping process lies in the fact that it will enable the physician to procure the semen of the patient at any time. It is somewhat difficult to understand how the measure can prove of any great therapeutic value, but this point may be left for clinicians to determine.

THE STATE CARE OF THE INSANE OF NEW YORK CITY.

THE bill which has been introduced into the New York State Legislature providing for the care by the State (for which read State Political Machine) of the insane of New York City, is certainly liberal enough to the State.

The bill proposes to establish the "Manhattan State Hospital," and to turn over to it the New York City asylums. It provides for a lease to the State of Ward's Island at an annual rental of one dollar, and for a conveyance in fee of all the asylum lands at Central Islip for the same consideration. All the buildings, improvements, equipment, fixtures, furniture, etc., of the asylums go with the land. In other words, the city is to give to the State all its insane asylum property on condition that the State take care of its insane.

It is intended that the State Hospital and all the accommodations for the insane shall be ultimately limited to the two establishments on Ward's Island and at Islip, and to that end it is provided in the same bill that such buildings on Blackwell's and Hart's Islands as are now occupied by the insane shall pass under the control of the managers of the State Hospital until sufficient accommodations shall be provided for their inmates elsewhere, such control not to continue more than five years. Thus, when the plan shall be fully carried out, there will be a complete separation of the insane under State care from the city's institutions of charity and correction, and the buildings of the latter will be free for other uses.

The plan to place all the insane upon one island and the prisoners upon another, thus separating insane and the criminal population, is certainly a wise one, but it might just as easily be done by the city authorities.

As we have before stated, we do not find any promise of improvement in the care of the insane through the proposed measure. The conduct of our State hospitals so far, shows that politics is likely to be just as prominent a factor as it has ever been in our city government. In fact with the aroused public sentiment in this city, we feel much greater confidence in future city than in State administration.

In addition to this there are likely to be practical complications due to the fact that the city pauper insane are all confined for a time in a city hospital.

We believe that it will be for the best interests of the public that the medical profession of this city protest against the proposed change.

We are glad in this connection to note the following editorial admission on the part of the *American Journal of Insanity*. It says: "We have advocated State care for the New York City insane, but if politics and unwarranted, and possibly dictatorial, interference with the local autonomy of the institution are to have sway, there will be little to choose for the unfortunate but helpless insane people who are most concerned, but have least to say."

TRAVELLING AND BRAIN GROWTH.

Dr. Walter Scargill, of Colchester, England, has discovered the remarkable fact that travelling makes the brain grow. He avers and can personally testify that much growth occurs, even to the extent of an inch, at the ages of thirty, forty-five, and sixty! This means of cerebral development he thinks might be applied to idiots, and he suggests that the patients of idiot asylums be shifted about once a year.

Here is a new field perhaps for the ever immanent bicycle. Put the idiot on a wheel and make him travel continually until the size of the hat-band increases from six to seven and a half.

Another suggestion which we modestly put forth is that the Legislative Assembly of this State, that of Kansas, Kentucky, and Massachusetts, swap State Houses every year, thus compelling the statesmen to move over the country, to the benefit of their cerebral convolutions and the improvement of their statesmanship.

News of the Week.

Pneumonia is unusually prevalent in Louisville, the death-rate in the the first quarter of this year being 246.

The Climate of Canada.—In the *Montreal Medical Journal* for March, Professor W. H. Hingston, President of the Montreal Branch of the British Medical Association, discusses the climate of Canada and its effect on the inhabitants of the Dominion. The two chief features in the physical geography of Canada are the profusion of lakes which "moderate the temperature both of summer and winter" and the comparatively low elevation of the land above the sea-level. The atmosphere almost always exhibits a sensible electrical state, and, according to Dr. Hingston, this has much to do with the well-known energy of Canadians. Even the warmest weather in Canada is grateful to the senses, while, on the other hand, the cold is exhilarating and does not affect the human constitution as in countries rendered cold by their great altitude. The death-rate is low, and Canada has no disease that she can call her own. Consumption exists even in that favored clime, but the Canadian climate, from its dryness and equability, is favorable "at certain seasons and under certain circumstances to an arrest of the disease." The conditions of the lung in cases of phthisis which are especially benefited by the Canadian climate are those of imperfect expansion and consolidation. Under the influence of the climate the European loses something of his ruddy color, and his skin becomes dryer and harsher. The effects of the dryness of the air are seen in the dryness of the hair and nails; the hair becomes darker and straighter, partaking more of the aboriginal type; the teeth are said to decay at an earlier age, but this Professor Hingston appears somewhat doubtful about; the fat which gives roundness to the general outline is less abundant, and the muscles of the face or their tendinous prolongations are more prominent. In respect of mental characteristics, while the Canadians do not display the devouring activity of the inhabitants of the States, they are, according to Dr. Hingston, more active than the effete peoples of Europe, occupying in this respect an intermediate position between the Old World and the New. During the two centuries of its existence Canada has given no sign of physical decay. On the contrary, the descendants of the British and German colonists have more than held their own in point of physique, while the children of New France, who have been longest in possession of the soil, are greatly superior in strength and powers of endurance to those of their mother country.

Examining Surgeon for Pension Bureau.—Dr. Arnot Spence of this city has been appointed an Examining Surgeon for the Pension Bureau, vice Coroner Hoeber resigned.

An Old Practitioner.—Dr. Frederick Andros, who died at Minneapolis last week, aged ninety-three, settled at Dubuque, Ia., in 1834, being then the only physician in regular practice west of the Mississippi. He moved to Wisconsin in 1846, accepting a Government appointment as physician to the Winnebago Indians. Dr. Andros was born at Berkeley, Mass., and was graduated at Brown University.

The Malden Hospital, Massachusetts, has just received a gift of $50,000 from Mr. E. S. Converse.

Foreign News Collectors.—Dr. Dujardin-Beaumetz died several months ago. In view of this lamentable fact the following London cablegram is an interesting evidence of the trustworthiness of some of our foreign news collectors. The report reads: "The epidemic in the military hospital at Vitré has been thoroughly investigated, and it has been demonstrated that the prevailing malady is not due to the use of American or other canned meats, as was at first reported. Dr. Dujardin-Beaumetz, an eminent authority, has examined the patients and disproved the theory of the local doctors. He declares that the disease is really spinal cerebral fever, complicated with lockjaw, due to the de-

fective drainage of the place, which induced blood poisoning. The disease is highly contagious. Seventy fatal cases have already resulted."

To Abolish the Present Lunacy Commission.—Senator Lexow has introduced a bill at Albany abolishing the present State Commission in Lunacy, headed by Dr. Carlos F. Macdonald, and creating a commission of five members, each of whom is to receive $5,000 annually.

The Gold "Cure" for Drunkenness.—A telegram from Leavenworth, Kan., says: Judge Myers, of the District Court, has made an important order affecting the rights of Dr. Leslie E. Keeley. W. F. Johnson of Topeka sues Dr. Keeley for $100,000 damages, the petition reciting that the plaintiff has been made a physical wreck because of the gold cure. Judge Myers, in granting the petitioner's request, rules that Dr. Keeley must make known the ingredients of his so-called bichloride of gold compound.

Antitoxin in California.—California is the first State of the Union which has made an appropriation for the manufacture of diphtheria antitoxin. The sum allotted to this purpose is $5,000.

The Loomis Dispensary and Sanitarium for Consumptives.—The officers of this institution have issued an appeal for the support and increase of their plant. They already have a dispensary on West Thirty-fourth Street.

Protest against a Hospital for Contagious Diseases.—Property-owners in the neighborhood of the Yale Infirmary, New Haven, have signed a protest against annexing to it a hospital for students with contagious diseases. They say that such a hospital, for which New York ladies and others have raised about half of the required fund of $10,000, should be put in the outskirts of New Haven, and not, as reported, in one of the best quarters of the city.

Deaths from Small-pox.—A tabulated statement published by the Marine Hospital Bureau gives the number of deaths from small-pox which occurred in each State and Territory of the Union during the year 1894, as well as the number of cases. The deaths were as follows: Arizona, 1; Arkansas, 24; California, 2; Connecticut, 17; District of Columbia, 6; Illinois, 877; Indiana, 10; Kansas, 7; Kentucky, 1; Louisiana, 1; Maine, 1; Massachusetts, 23; Michigan, 84; Minnesota, 4; Missouri, 2; New Jersey, 12; New York, 337; Ohio, 3; Pennsylvania, 34; Rhode Island, 3; Tennessee, 1; Wisconsin, 253. In several States the disease has been more virulent since the beginning of the present year than it ever has been before.

The University Hospital, of Philadelphia, has recently received gifts amounting to nearly sixty thousand dollars.

Way Behind the Times.—A bill has been introduced in the City Council of Baltimore, at the instigation of the Medical and Chirurgical Faculty, to compel physicians to report cases of typhoid fever.

The Tuberculin Test for Tuberculosis in Cattle.—The Report of the Royal Commission on Tuberculosis in Cattle which was recently presented to Parliament, contains some interesting statements about the tuberculin test: The literature of the subject and the results of Professor McFadyean's special inquiry convinces them that extensive tuberculous disease may exist in cattle that appear to all clinical tests to be in perfectly good health. And they are clearly indisposed to believe that a completely trustworthy test of the presence of tuberculosis has yet been proved to exist in the reaction to tuberculin. "Professor McFadyean finds, in his own hands, that this test substance has frequently led to erroneous inferences. He records, as the total outcome of his experiments, that he received wrong indications from tuberculin about the presence or absence of tubercle in cattle in the case of twenty-four animals out of seventy-five; nevertheless, he sums up his report by the statement: 'I have no hesitation in saying that taking full account of its imperfections, tuberculin is the most valuable means of diagnosis in tuberculosis that we possess.' And we understand that, since the time of Professor McFadyean's experiments, the method of using tuberculin as a test has been much improved, and that it is now regarded as affording more trustworthy indications for diagnosis.'

The Retirement of Deputy Surgeon-General Billings.—We learn that Deputy Surgeon-General John S. Billings, of the army, has requested that he be placed on the retired list; and that in October that distinguished officer will leave the Army Medical Museum, of which he is curator, and the Library of the Surgeon-General's Office, of which he is librarian, and these magnificent institutions, that have been made what they are largely by his ability and zeal, will know him no longer. Before the date he has selected for his retirement he hopes to complete his work on the final volume of the Index Catalogue. In seeking official retirement Dr. Billings does not propose to give up work, as he has accepted the chair of hygiene in the University of Pennsylvania.

Danger From Tuberculous Meat.—In regard to this subject, the Royal Commission on Tuberculosis in Cattle give the following recapitulation of their views. "We have obtained ample evidence that food derived from tuberculous animals can produce tuberculosis in healthy animals. The proportion of animals contracting tuberculosis after experimental use of such food is different in one and another class of animals: both carnivora and herbivora are susceptible, and the proportion is high in pigs. In the absence of direct experiments on human subjects we infer that man also can acquire tuberculosis by feeding upon materials derived from tuberculous food animals. The actual amount of tuberculous disease among certain classes of food animals is so large as to afford to man frequent occasions for contracting tuberculous disease through his food As to the proportion of tuberculosis acquired by man through his food or through other means we can form no definite opinion, but we think it probable than an appreciable part of the tuberculosis that affects man is obtained through his food. The circumstances and conditions with regard to the tuberculosis in the food animal which lead to the production of tuberculosis in man are, ultimately, the presence of active tuberculous matter in the food taken from the animal and consumed by the man in a raw or insufficiently cooked state.

Tuberculous disease is observed most frequently in cattle and in swine. It is found far more frequently in cattle (full grown) than in calves, and with much greater frequency in cows kept in town cow-houses than in cattle bred for the express purpose of slaughter. Tuberculous matter is but seldom found in the meat substance of the carcass; it is principally found in the organs, membranes, and glands. There is reason to believe that tuberculous matter, when present in meat sold to the public, is more commonly due to the contamination of the surface of the meat with material derived from other diseased parts than to disease of the meat itself. The same matter is found in the milk of cows when the udder has become invaded by tuberculous disease, and seldom or never when the udder is not diseased. Tuberculous matter in milk is exceptionally active in its operation upon animals fed either with the milk or with dairy produce derived from it. No doubt the largest part of the tuberculosis which man obtains through his food is by means of milk containing tuberculous matter. The recognition of tuberculous disease during the life of an animal is not wholly unattended with difficulty. Happily, however, it can in most cases be detected with certainty in the udders of milch cows. Provided every part that is the seat of tuberculous matter be avoided and destroyed, and provided care be taken to save from contamination by such matter the actual meat substance of a tuberculous animal, a great deal of meat from animals affected by tuberculosis may be eaten without risk to the consumer. Ordinary processes of cooking applied to meat which has got contaminated on its surface are probably sufficient to destroy the harmful quality. They would not avail to render wholesome any piece of meat that contained tuberculous matter in its deeper parts. In regard to milk, we are aware of the preference by English people for drinking cows' milk raw—a practice attended by danger on account of possible contamination by pathogenic organisms. The boiling of milk, even for a moment, would probably be sufficient to remove the very dangerous quality of tuberculous milk.

Obituary.

JOHN W. BYRON, M.D.,

NEW YORK.

Dr. John W. Byron, the distinguished bacteriologist, died May 8th of pulmonary tuberculosis contracted during his investigations of that disease in laboratory work. He was born in Lima, Peru, July 24, 1861, and was taken away during his most active period of usefulness. With a bent toward bacteriological work he became identified with it almost from the commencement of a brilliant career. Shortly after his graduation he removed to Havana, and during a yellow-fever epidemic there he made laborious bacteriological researches, which eventuated in the establishment of certain principles of propagation of the disease which proved to be of the greatest practical utility in staying the progress and mitigating the effects of the direful scourge. After a course of laboratory study in Berlin and Paris he was invited five years ago to accept the position of bacteriologist to the Loomis Laboratory, in which position while experimenting with tubercle bacilli he is said to have developed the symptoms of his fatal malady.

When cholera appeared in New York in 1894, by invitation of Health Officer Jenkins, he assumed charge of the cholera camp at Swinburne Island, where he remained quarantined during all the period of the threatened invasion. With an earnestness of purpose in his work usual with him, he devoted his best work to the interest of the public safety, and as a reward gained for himself the enviable reputation of a public benefactor. The disease of which he died first showed itself in March, 1894, and made very rapid progress, in spite of his determination to fight against it and continue his investigations. Change of climate was of no avail, and bravely hoping against hope, he died, regretted and mourned by the entire community, a sacrifice to science and an ornament to the profession he so ardently loved.

Reviews and Notices.

Health Notes for Young Wives. By Aimée Raymond Schroeder, M.D. New York: William Wood & Co. 1895. 12mo, pp. 210.

The very suggestive title of this little book is more than fulfilled by its contents. The authoress has manifested great tact in dealing intelligently, judiciously, and chastely with a subject that is always a delicate one to handle from a popular standpoint. The information, given in a plain and clear style, is all that is necessary for a young wife to know who wishes to act with intelligence in caring for herself and her prospective offspring. Even the abstruse subjects of ovulation and generation are described in a manner that cannot fail to be understood by an ordinary reader. Many of the little points concerning which the prospective mother is so desirous of knowing are very fully explained, especially those which refer to possible accidents and emergencies which are liable to occur during the gestatory period. The authoress very truly implies that the physician is not expected to enter into all these details, interesting as they may be for the mother, and for that reason she attempts, very successfully, we think, to stand between him and his patient, in quieting her fears, relieving her anxieties, and affording her physical comfort by calling attention in a very general way to the commonsense application of those principles which should be known by every intelligent mother. The care of the infant from the time it is born until it is able to feed itself, claims its share of attention, and will be eagerly read and properly appreciated by the readers. In fact it is such a book as the physician can recommend to his patient and save himself much time and trouble in the giving of information which, under other circumstances, is so necessary and important.

The Medical Annual and Practitioner's Index. A work of Reference for Medical Practitioners, 1895. Thirteenth year. Bristol, Stone Bridge: John Wright & Co.; New York: E. B. Treat.

This book, containing over seven hundred pages, is the outcome of the most recent medical contributions to date. It has the combined efforts of the most prominent members on both sides of the Atlantic, and is rather an international result. Some of the illustrations, for example on page 354—relating to acute œdematous laryngitis, subglottic œdema, acute perichondritis—are excellent.

The many interesting chapters, notably on diseases of the ear and the management of skin diseases, make it especially valuable for the everyday practitioner. The book well deserves careful study and will then only be appreciated.

Society Reports.

American Medical Association.

Forty-sixth Annual Meeting, held in Baltimore, May 7, 8, 9, and 10, 1895.

FIRST DAY, TUESDAY, MAY 7TH.

THE first session of the Forty-sixth Annual Meeting of the Association was held in the Music Hall, on Mount Royal Avenue. It was called to order by the President, DR. DONALD MACLEAN, of Detroit, at 10.45 A.M. The opening prayer was delivered by RT. REV. WILLIAM PARET, the Episcopal Bishop of Maryland. GOVERNOR BROWN was to have delivered an address of welcome to the State, but was unable to be present. The members were welcomed to the city by the HON. F. C. LATROBE, Mayor of Baltimore. He said that though himself a lawyer by profession, he had always entertained great admiration and respect for medical men. Physicians and lawyers were alike sufferers from the gibes and slanders of those who had been restored to health or had been aided in obtaining their rights by the efforts of one or the other, but who for the time being no longer needed the assistance of either. However, the physician had his revenge when the slanderer fell ill, and his revenge was all the sweeter in that it was a return of good for evil. He was glad to see so many ladies with the delegates, for it spoke well for them and for their husbands and fathers. He was a firm believer in men taking their wives along on their journeys; they (the men) were always safer when travelling with their consorts. He felt sure the members of the Association would be pleased with the hospitalities, public and private, of which they would be the recipients during their stay. If any came to the City Hall he would be most glad to welcome them.

DR. SAMUEL C. CHEW, Chairman of the Reception Committee, then delivered an address of welcome on behalf of the medical profession of Baltimore. Twenty-eight years, he said, had passed since the Association had last met in Baltimore, and many of the members now present were then not yet in the ranks of the profession—some of them doubtless still unborn. Vast changes had taken place in that period. The population of the United States had increased from 35,000,000 to 70,000,000, that of Baltimore from 250,000 to half a million. This city has now become one of the chief centres of medical education in the country, and attracts each year about one thousand students to its schools of medicine. In 1866, when the Association last met in Baltimore, the shock of the Civil War had not been recovered from. Medicine especially suffered from the conflict, for this, like other sciences, flourishes best in times of peace, and shines not when war moves man's passions. Since that time the advances which had been made were great and varied, but the greatest of them, and the one that presaged the greatest good to humanity, was not the specific treatment of disease nor the development of antiseptic surgery—it was rather (referring to this country) the elevation of the standard of medical education. In the education of the future physician lay the possibility of further advances in medicine. The objects of medicine are twofold, the practical and the ideal. The first object of medicine, the material object, is that the people may have life and have it more abundantly; the second, the spiritual object, is the search for truth—pure, enduring truth. It is to the attainment of these objects that the higher medical education will directly lead. Every year more earnest workers will be impelled to enter the ranks of the students of medicine, as they see the possibilities of some scientific work broadening out before them, and these same workers will go forth from the schools better and better equipped for the labors that are before them, whether they strive especially to further the one or the other of the two great objects of medicine, the granting of life or the search for truth. The truest and most cordial welcome that he could extend the members of the Association was the expression of the hope that their deliberations would result in the promotion of these high objects.

DR. OSLER, Vice-Chairman of the Committee of Arrangements, made several announcements, urging upon the members the duty of registering early and reading the programme for the day's entertainments. He said that the guide-book which was gotten up for the benefit of the members, had been hastily printed, and the proofs had not been submitted to all the members of the Committee; had it been, some advertisements which it contained would not have been admitted. He desired to express his own entire disapproval of certain of them.

Living Issues in Medicine.—DR. DONALD MACLEAN delivered the presidential address, taking for his theme, "A Few Living Issues Affecting the History of Medicine and what Came of Them." He recalled briefly certain questions which in their day received the active and interested attention of thinking people. For some years immediately preceding and immediately following the beginning of his professional life, the attention of science and of medical thought was directed toward that renowned centre of medical and general learning, his own alma mater, Edinburgh. A glance at the names which at that time constituted its medical faculty will explain this. They were Syme, Simpson, John Hughes Bennett, John Goodsir, Robert Christison, Lyon Playfair, Mr., now Sir William Turner, who is the only one still remaining of that brilliant galaxy of teachers and philosophers. Such a faculty could not fail to attract interested attention. While it is well known that at Edinburgh a vast amount of extremely valuable work was, in these days, accomplished in all departments of medical science, still there was, in that far-famed school, one man and one question toward which, from every quarter of the civilized world, eager anticipations were directed. This man was James Young Simpson, and the question was, "The use of chloroform as an anæsthetic." Having caught the essential idea of relieving pain by the inhalation of ethereal vapors, from this country, Simpson, with the energy and courage of his great nature, devoted all his eloquence, ingenuity, and literary acumen to the development and final establishment of the new doctrine. How he succeeded we now know full well.

The influence of the doctrine of descent and Darwin were next alluded to. In 1859 Darwin's work, entitled "The Origin of Species," appeared in London, and as we look back and contemplate the effect of this book we are forced to admit that it constituted a turning-point in the history of science. It appears now as if by its means the spectators were permitted to behold a new and hitherto unimagined and unimaginable view of the long-sought-for secrets of nature, making many things intelligible which, previous to that time, had been wrapped and hidden in that impenetrable and sepulchral vestment, "mystery."

It would be impossible, within the limits of this review, to particularize the luminous influences which have proceeded to every department of science, all of which had their origin in Darwin's great generalization. Foremost among these was one of profound biologic significance affecting all our previous conceptions of heredity. Heredity must always remain a prime factor in the etiology of disease. A correct conception of that in which it consists would appear to be indispensable for the comprehension of pathologic processes. Manifestly, if Darwin's law were true, and if the acquirements of variations by means of natural selection was the cause of modification in the organism, not only must heredity be the cause of permanence in organic

types, but it must also be upon transmission of beneficial variations that racial development is dependent. These conclusions gave rise to a renewed application of the laws of heredity to medical science. Embryology became a matter of deepest significance. Teratology took rank as a science. Reversions in type began to be intelligible, strange growths were no longer viewed with wonder as *luses naturæ*, as sportive attempts of nature to accomplish something strange, but were studied carefully with an eye to their comparative classification.

While alluding to the influence of Darwin, especially through the doctrine of heredity, it would be wrong not to call attention to another sweeping generalization which must profoundly influence medical thought. The theory of heredity propounded by Professor Weissman, of Freiburg, may be said to have arisen out of Darwin's work largely through being negation of some of Darwin's conjectures. Weissman's theory seeks to explain what no doctrine of heredity has hitherto accounted for—how a single microscopic cell can reproduce parental characteristics, and frequently characteristics of grandparents or remote ancestors. Darwin's doctrine of pangenesis was never felt to be entirely satisfactory. Weissman's theory of the "continuity of the germ plasm"—the inference of the practical immortality of the germ plasm, the explanation of variation by means of natural, not acquired selection, and the admission that a man resembles his parents, not because he acquires by transmission these characteristics, but because he as well as they arose out of the same germ plasm; these are conclusions which, if ultimately substantiated, are bound to influence and modify our conception of disease and its processes most profoundly.

The issue next referred to was that which ultimately eventuated in the complete abandonment of blood-letting and the so-called antiphlogistic expedients upon which the profession had so confidently relied.

The rise and development of the new art of gynecology, under the leadership of J. Marion Sims on this side and of Simpson on the other, was then recorded. From very insignificant and unpromising beginnings this science has certainly, as we all know, increased and grown, and, in short, passed through an almost miraculous process of evolution.

In this retrospective view of living issues in medical thought, it would be impossible to overlook the important and inspiring one comprehended under the name of "the cellular pathology." With this page in the history of our science the great name of Virchow will always be inseparably associated, as its founder and greatest advocate. While the doctrine "*Omnis cellula e cellula*" had not explained all the mysteries of pathology, few can admit that the discoveries of Virchow and his school do not stand out as among the most inspiring discoveries of medicine.

Pasteur, Tyndall, Lister; the mention of these three names, familiar wherever the rays of modern civilization have penetrated is, I am sure, all that is necessary for the purpose of introducing here the ever-fresh and all important "living issue" known as the "germ-theory of disease."

It was undoubtedly the inspiration derived from the Darwinian doctrine of the struggle for existence, ultimately securing the survival of the fittest, that gave new significance to the studies which had begun with Pasteur, and whose relation to surgery had been so splendidly demonstrated by Lister in a series of brilliant and conclusive experiments in 1865. If life from its abstract stand-point were a conflict in which the fittest survived, how much more so was the concrete and organic life the scene of a perpetual warfare with those insidious foes the microbes. It is not possible here to trace the growth and development of the new science of bacteriology, which we know has revolutionized the science of surgery, modified the art of surgery, and subverted our deepest, most fundamental pathologic beliefs. So essential has this science become that to-day we regard no young practitioner as thoroughly equipped for surgical work who is not something of an expert bacteriologist. It is out of the study of bacteriology and microbic pathology that modern medicine is slowly but certainly evolving one of her supreme triumphs. Hitherto the immunity to attacks of small-pox conferred by vaccination has been an isolated and incomprehensible fact. Jenner's discovery has been a witness to the value of empiricism in medicine. In harmony with no theory, explained by no logical device, vaccination has by its own inherent virtue proved the value of undiscovered theories. To-day a meaning is given to the word "immunity" such as was never before known. A great hope animates the noblest of professions, that in all the so-called zymotic diseases immunity may eventually be conferred and the most disastrous agencies of human destruction may be deprived of their malignity through the sublime genius of man.

After reviewing the doctrines of immunity, it was said, "if there be one event that can accentuate this meeting in the memory of those who honor it with their presence it will, I firmly believe, be due to the fact that to-day we, as a profession, stand on the threshold of one of the most beneficent discoveries medicine has ever made. A discovery whose consequences will transcend those of any other in the increase of happiness it will ultimately bring to mankind."

An appeal was made for a remodelling in methods of medical education, and the support of the profession was asked in securing a bureau of health (with an official head in the cabinet). The party, professional or political, which shall succeed in consummating this wise measure will assuredly earn for itself the gratitude and applause of an appreciative nation. The individual citizen who shall materially contribute to the success of this noble "useful plan" will be justified in congratulating himself on having realized the lofty aspiration of the patriot, as well as the sublime and pathetic "wish" of the poet: "*Homines deos accedunt hominibus dando salutem.*"

A vote of thanks was offered upon the conclusion of the address, and it was requested that that part of it which dealt with the question of the establishment of a National Department of Public Health be brought to the particular attention of the Government at Washington.

Report of the Judicial Council.—The report of the Judicial Council upon the question of advertisements in the *Journal* was then presented. The Council found that some objectionable advertisements had been admitted into the *Journal*, and they had called the attention of the Trustees and of the Editor to the fact.

It was then moved that the report of the Trustees be made on Wednesday, and be at once referred to a committee which should make its report on the following day. This motion was vigorously opposed, and a substitute was proposed that a committee be appointed to confer with the Trustees before the latter should make their report. The motions were laid on the table.

It was moved that the Genito-Urinary and Dermatological Sections be united, and the question was referred to the respective Sections for consideration and action.

To Raise the Rank of Assistant Surgeons in the Navy.—Dr. Millard, of St. Paul, introduced a resolution to present a memorial to the Senate Committee on Naval Affairs praying that the officers of the medical corps of the navy may have the same rank, pay, and emoluments as are now enjoyed by officers of the medical corps of the army. Owing to the unjust treatment of young medical officers in the navy, that branch of the service was suffering, and it was impossible to get young men with the necessary high standard of medical ability and physical health to come up for examination and then submit to the indignities at present put

upon junior medical officers in the navy. It was moved and carried that this resolution be printed and that a copy be sent to the President of the United States, the Secretary of the Navy, and every member of the 54th Congress.

Advertisements in the Journal.—Dr. Leartus Connor, of Detroit, moved that a committee be appointed to determine what proportion of the members of the Association are accustomed to use proprietary remedies in their practice, and that, if it should be found that a majority did prescribe these drugs, all objection to the printing of advertisements in the *Journal* be withdrawn.

This motion, like all the preceding which had touched upon the question, was at once laid upon the table.

The general session was then adjourned.

Second Day, Wednesday, May 8th.

The meeting was called to order by the President at 10.30 A.M. It was announced that a delegation from the American Pharmaceutical Association was present and the courtesies of the American Medical Association were extended to it. The chairman of the delegation was invited to a seat on the platform. The Nominating Committee was then appointed.

Successful Appeal for the Rush Monument.—Dr. Albert L. Gihon, U. S. Navy, then presented the report of the Rush Monument Committee. He said that he had regretfully to report that the amount thus far collected for this most worthy object was only $3,094.39. It was a subject of reproach to the American Medical Association that the necessary amount for a monument to Rush could not be raised, while in a much shorter time the American Surgical Association had collected all that was needed for a monument to Gross. Dr. Gihon then sketched briefly the life of Benjamin Rush, recounting all that he had done for science and for the glory of American medicine. He died at the age of sixty-eight, from the typhus which was then epidemic in Philadelphia, and which he was battling against with all his energy. The speaker said that he could guarantee that the pedestal for the monument would be furnished free of cost to the Association, a beautiful and most commanding site was already selected, and all that was now needed was that the Association raise the money for the statue. The appeal was most eloquent, and bore fruit as no previous one had done. A number of those present offered to give personally, or to be responsible for the raising of, sums varying from $50 to $500, and before the next business came before the Association, the funds of the Monument Committee had been increased by over $2,000.

On motion, the thanks of the Association were extended to Dr. Gihon for his unremitting labors on the Rush Monument Committee, and the report of the Committee was accepted and ordered to be published. It was also moved that each delegate of the Association be constituted a special committee of one to solicit subscriptions from the members of his local society and to transmit them to the treasurer of the National Committee at Washington.

Reports of Officers and Committees.—The reports of the Secretary and of the Treasurer were read and accepted. Letters were read from the Mayor of Hot Springs, and from the President of the Hot Springs Medical Society inviting the Association to hold its next annual meeting in that city. The Committee on General Business reported adversely on the proposed establishment of a separate section on orthopedic surgery.

Department of Public Health.—The Secretary read a communication from the Section on State Medicine containing suggestions relative to the establishment of a National Health Department, and calling for the appropriation of a sum sufficient to meet the necessary expenses of bringing the matter before Congress. The communication was referred to the Trustees.

Wicked Cleveland Doctors.—A communication was read from a member protesting against the admission to the Association of any member of the Cleveland Medical Society on the ground that certain members of the Society had violated the Code of Ethics by meeting irregular practitioners in consultation. The protest, which was couched in vigorous terms, was referred, without any discussion, to the Judicial Council.

Four Years' Course of Study.—Dr. Wilson, of Columbus, O., offered a resolution urging the Association of American Medical Colleges not to rescind the rule of a four years' course of study which was adopted at the last meeting, and deprecating efforts which were being made to reduce this limit of study to three years. The resolution was unanimously adopted.

The Malarial Disorders of Large Cities, with Especial Reference to Chicago, was the title of an address by William E. Quine, M.D., of Chicago, Ill. It is a fact of familiar observation and comment that irregular cases of malarial disorder are occasionally met with at all seasons of the year and in all localities. It is equally well known that the conditions existing in large cities are inimical to the production of the malarial poison. The busiest metropolitan physician sees very few examples of frank periodical malarial fever that unquestionably originated in paved and sewered portions of his city. The rare cases that do occur are accounted for upon the assumption of "limited foci of infection." If an excavation for building purposes is found in the neighborhood, no matter what the season of the year, it is readily assumed that the upturning of the soil is the cause of the patient's sickness. Or, if the individual have been out of the city, at any time within a period of a year or two, it is taken for granted with equal promptitude and with equal lack of knowledge of the truth, that he received the infection at that time, and that it has been sleeping or "latent" in his body ever since; and if he actually visited a region known to be malarious, even though it were several years before, the discovery of the fact is regarded as having almost the force of a demonstration of the time and place of intoxication. And if no recent excavation can be found and no absence from the city have occurred, it is nevertheless heroically maintained that some subtle emanation from the soil, somewhere, must be held responsible for the result. In considering this problem it is well to include the questions of season, climate, and locality. Contemplate the climate of Chicago between November and March, when the earth is frozen to a depth of a foot or more a good part of the time, and also covered with frozen snow, to say nothing of macadamized pavement; when the temperature has been below zero for a month and below the freezing point for several months; when building operations are arrested and a recent excavation cannot be found anywhere; and then try to account for the malarial affections that prevail on the finest avenues and boulevards of that city during and between the months named, by assuming that there has been some subtle morbific emanation from the soil. The country surrounding the head of Lake Michigan was intensely miasmatic before it became densely populated and comparatively well drained; and the environs of Chicago are miasmatic still. They drain into Lake Michigan. Modern treatises say that the prevalence of malarial disorders in the region of the Great Lakes is not extensive, but is limited in great part to the vicinity of Lake St. Clair and the southern shore of Lake Erie. Dr. Quine has been teaching medical students for many years that there were no paludal diseases in Chicago that originated in finished portions of the city, except here and there a chance case resulting from fresh upturnings of the soil. He believed that to be true till a couple of months ago. He used to think that malarial infection

was easily recognizable, except in rare instances, on the basis of a strong individuality of its symptomatology; but now he thinks that cases are common in which no man that lives, or ever has lived, can make a reliable diagnosis on the basis of their external phenomena. He also thinks that he has been seeing such cases all his life and labelling them "irregular typhoid fever" and "rheumatism" and "grippe" and "purpurpa hemorrhagica," or something else. He used to refer to the word "malaria" as the refuge of ignorance, and it was and is and will continue to be used by doctors when they do not know what is the matter with their patients. But when the diagnosis is supported by a microscopical demonstration it is different. We can ridicule an opinion, but we must make obeisance to a fact. In this day diagnosis is not always a mere matter of judgment. It may be a matter of demonstration. For purposes of medical literature and debate there are no cases of malarial disease in large cities and other non-malarious localities except such as have been proved by microscopical examination of the blood. And yet just such cases are common in Chicago; and, if they are common in Chicago, it would be surprising if they did not occur at all in Milwaukee and Detroit and Cleveland and Buffalo.

It is interesting to recall the fact, set forth in Parkes' Treatise on Hygiene, that the inhabitants of the highly malarious Plains of Troy, and of the extensive and pestilential marshy regions of India, are unanimous in testifying that those who drink marshy water are liable to have fevers at all times of the year, and that those who studiously avoid the use of such water are affected, if at all, only during the late summer and autumn months. It is also serviceable to remember that places inherently healthful are dangerous to life by reason of their connection with the breeding places of malaria through rivers which constitute the sources of water supply for their inhabitants. Aitken points out that the Upper Godavery Tract, one of the most virulently malarious regions of India, does not contain one acre of marshy ground; but its people drink the water of the Godavery River, which drains more dense forest land than any river in the Empire. Similar illustrations might be gathered from various parts of our own country. Professor Bemiss, of New Orleans, shows that the poison of malaria may live in water an indefinite and undetermined time and be conveyed by water-currents through immense distances, even to remote islands and continents. If these statements are true we may use the facts upon which they are based in elucidating the causes of the prevalence of palustral diseases in Chicago and, possibly, in the other lake cities named. Many a marshy stream empties its waters into those of Lake Michigan. The prevailing current of the lake is northward toward the Straits of Mackinaw. The Calumet River, which drains an extensive marshy area in the northwestern part of Indiana and the adjoining portion of Illinois, empties its accumulations of organic matter into the lake three or four miles south of the "Crib," or opening of the great tunnel which supplies the south division of the city with water. The Chicago River also drains a marshy region, and its polluted waters passing into the lake and directed northward, away from the tunnel opening just alluded to, are more likely to affect the sources of supply of other portions of the city. Contrary winds, doubtless, disturb the ordinary direction of diffusion of the marsh poisons through the lake. It is not to be inferred that the water used by the citizens of Chicago is inferior to that of other large cities, for there is abundant evidence that it is not; but it cannot be denied that it contains the products of the marshy regions surrounding the head of Lake Michigan. Nor is it to be assumed that every drop, nor even every tun of this water is thus contaminated. It will be sufficient to admit that here and there a citizen gets a dose of the poison in his drink. This is to him a more rational and satisfying explanation of the midwinter origination of malarial disorders in Chicago, and, possibly, in other lake cities, than any supposition in favor of limited foci of infection which requires us to believe that frozen ground covered with frozen snow can belch forth miasm into an atmosphere whose temperature is below zero and stock that atmosphere with living malarial organisms.

Dr. Quine then gave the clinical records of a number of extremely interesting cases showing difficulties in diagnosis and the occasional inutility of treatment, which represented in the main the observations of Dr. Frank Seward Johnson, Dr. Frank Billings, and himself, and covered a period of several months.

Blood examinations were made only in confusing and suspicious cases, and many instances of malarial infection may have been overlooked. The exact source of infection in such cases is a matter of conjecture. There may be those who can conceive of protozoa disporting themselves on the lake shore in December or January without a stitch of clothes on, in an atmosphere that is ten degrees below zero; but it is easier to believe that the malarial organisms, like other protozoa, live in the water and gain entrance to the human body by being swallowed. This is not intended as a denial of the possibility, nor even of the likelihood, that marsh air may be laden with them, especially the night and early morning air containing an abundance of moisture. So far as known every vital phenomenon manifested by these parasites requires the presence of water. But it is obvious that the very word malaria—bad air—prejudges the case and tends to prevent a fair investigation of contradictory facts. The proofs of water infection are quite as strong as those of air infection, and there is not a doubt that impure water is responsible for the occurrence of malarial derangements with immensely greater frequency than is generally known. There is good reason to suspect that marsh poison is a more common cause of death in large cities than has been supposed, and that the "masked" or atypical forms of morbid action are rarely identified. Most of the cases met with have been of the "masked" variety, and, from the standpoint of external phenomena, have not been recognizable as examples of malarial infection. Some of the cases have been easily diagnosed on the basis of the periodicity of their symptoms, neuralgic or febrile. In some pulmonary tuberculosis and malarial toxæmia coexisted—an impressive fact, suggesting the idea that the diminished powers of resistance occasioned by one, predisposes to the other. In, perhaps, half the cases a history of periodicity may be elicited, but it generally requires close questioning and observation to do so. The absence or presence of this feature is not safe ground for differential diagnosis. Distinction must be made between true periodicity and erratic appearance and disappearance of symptoms or of fluctuations in their severity. The entire absence of fever would be enough to obviate suspicion on the part of city doctors, especially in the winter season of northern latitudes, that the case in hand might be one of paludal intoxication. The failure of quinine to arrest febrile or other symptoms of disease is considered by many a demonstration that such disease is non-malarial. This assumption is not correct. A patient whose blood is teeming with hematozoa may be profoundly cinchonized for weeks and then die with an undiminished number of parasites in his circulation. In other cases the medicine is instantly efficacious. Under the use of quinine some symptoms disappear and others persist.

Some pointed questions can be asked as to the soundness of prevailing opinions concerning the incubative period of these disorders. The duration of this period, as stated by authoritative writers, varies between a few minutes and several years. If the meaning of the term is limited to the time intervening between the reception of the hematozoon and the outbreak of a periodical fever, the indefiniteness of statement referred to is fully warranted; for, inasmuch

as no outbreak of fever may occur at all, the patient may die while the germ is still sluggishly incubating. That is, the infection may kill without causing any important elevation of temperature.

The same considerations must be applied to the elucidation of the question of relapses. In recurrent true malarial fevers it may not be easy to differentiate between relapses and new infections; but we may investigate and eventually be able to answer the question. Suppose a citizen of Chicago had an attack of ague or pneumonia or typhoid fever, recovered, remained in perfect health a year, and then had another attack; is this relapse? The affirmative would represent prevailing opinion in relation to a malarial fever; but is there any proof that prevailing opinion is correct? If by the term "relapse" is meant repeated outbreaks of fever during the course of continuous infection—the patient being sick with other derangements caused by the infection every day of the time—the meaning is different from that given to it in relation to other kinds of disease. It is obvious that all our literature on the etiology of malarial diseases must be revised and put in accord with existing facts.

The fact that the germs of malaria are often conveyed into the body by other media than the air—media that we can easily sterilize before permitting them to enter the body—is one of the greatest facts of the day. It makes the duty of the doctor plain. We grow enthusiastic in contemplating the possibilities of the antitoxins, with which we hope to throttle infection the instant it invades the human sanctuary. But, after all, prevention is a still higher aim, and it is the chief glory of our profession that its best minds and purest hearts are ceaselessly active in this direction.

A vote of thanks to Dr. Quine for his interesting address was passed, and the morning session was then adjourned.

THIRD DAY, THURSDAY, MAY 9TH.

THE meeting was called to order by the PRESIDENT at 10.30 A.M.

The report of the judicial council was presented. The protests against the registration of certain gentlemen from Pennsylvania and Ohio were referred to the respective State Societies. The report of the trustees was then read. The report said that hereafter no advertisements of medical preparations would be accepted for the *Journal* unless the makers published at the same time the formulæ of such preparations. On motion the report was unanimously approved.

Address on Surgery.—Dr. C. A. WHEATON, of St. Paul, then read the address on surgery. The speaker said the specialist should be better prepared, and a surgeon should be learned in all branches, and should practise general medicine for a time. He regretted the decline of the family physician, who was formerly the oracle consulted on all subjects, and whose advice was taken on many matters other than medical. A review of surgery since the introduction of anæsthesia and antisepsis is indeed a wonderful story, but it is not all as it should be, and the modern surgeon often abuses Nature's resources. The speaker then passed in rapid review the surgery of special regions in both sexes. He hailed the growth of conservatism in the surgery of the female pelvic organs. Man's pelvic extremity is now perhaps in greater danger than woman's. Whether the new suggestion for the cure of the enlarged prostate will find general approval, especially of the patients, is very doubtful. There is a danger that joint surgery may become too mechanical, but in other branches of orthopedic surgery the knife is in great measure taking the place of mechanical apparatus.

A Permanent Home.—A resolution was immatured to raise the dues to $6, the extra dollar to be applied to the formation of a building fund. Referred to the Business Committee. No amendments were allowed. On motion all the pending amendments to the constitution and by-laws were indefinitely postponed. The proposed amendment to the Code of Ethics, striking out the clause forbidding the patenting of surgical instruments, was likewise indefinitely postponed. The report of the Committee on Department of Public Health was then presented.

Election of Officers.—The Nominating Committee recommended the following for election: *President*, Beverly Cole, of California; *Vice-presidents*, Dr. Chisholm, of Maryland, Lagrange, of Texas, Clarke, of Mississippi, and Satterwhite, of Virginia; *Secretary*, Dr. Woodbury, of Philadelphia, Pa.; *Treasurer*, Dr. H. P. Newman, of Chicago, Ill.; *Address on Medicine* by Dr. Osler, of Baltimore, Md.; *Address on Surgery* by Dr. Senn, of Chicago, Ill.; *Address on State Medicine* by Dr. Rohé, of Baltimore, Md.

The session then adjourned. The next meeting will be held at Atlanta, Ga., the first Tuesday in May, 1896.

SECTION IN MEDICINE.

FIRST DAY, TUESDAY, MAY 7TH.

Chairman's Address.—DR. E. W. KELLOGG, of Milwaukee, said that it was with peculiar fitness that we meet this year in Baltimore, where nearly half a century ago this Association gave its birth-cry. It has outgrown its infancy, passed successfully through adolescence, and is now in a vigorous maturity. The development of medical science has led to the formation of new sections, and thus slice after slice has been taken from the territory formerly occupied by the Section in Medicine. Nevertheless, our growth as a Section, while not so marked perhaps as that in surgery and gynecology, is yet apparent.

Some idea of the progress of these last forty-seven years can be obtained by reading from the Report of the Committee on Medical Sciences, which said to the Association in its natal year that "there is confident reason to believe that there are certain ethereal vapors which when inhaled will produce profound insensibility, and that in this state operations on any part of the human body can be performed without the least pain to, or consciousness of, the patient." Anæsthesia, the greatest blessing ever vouchsafed to man, was then being introduced. Yet so great was the scepticism of that day to its utility that the committee were divided in their opinion as to its practicability. Quinine was coming to be regarded as a specific for malarial disorders, though the etiology of the latter was unknown. The salicylates and antipyretics were as yet unintroduced to medical practice.

In 1877 the germ-theory of disease was first introduced. It is seductive, but has led to many unwarrantable deductions. Of the more recent so-called advances many are more apparent than real. Our people are prone to follow fads, and even the medical profession is not exempt from this tendency. The temple of medicine builds but slowly, and many stones laid in the first flush of a fancied new discovery have had to be removed by the calmer judgment of subsequent clinical experience. Time and experience alone can demonstrate the soundness of our workmanship. Antisepsis has gone forward with a mighty sweep, but it seems to have reached its high-water mark and already the top crest of the wave is scattering into foam. We are learning that it is better to avoid the causes of disease than to remove their effects, and that good hygiene is preferable to therapeutics. During the past year the question of serum therapy has become of transcendent importance. It is either a tremendous farce or else the greatest advance in the battle against physical ills since Jenner's immortal victory. The serum must be pure, the diagnosis of our cases must be a bacteriological one, the injections must be made under antiseptic precautions, and the treatment begun at the earliest possi-

ble moment. If even one-half of what is claimed for the remedy be true, it is well worthy of a further trial. But the claims of its advocates are met by the assertions of its opponents as to its uselessness in secondary infections of the bronchi, and its deleterious effects on joints, kidneys, and skin. Lesions even fatal have followed its use. One year's experience is not sufficient to determine its value, and we must look upon the remedy as still *sub judice* and use it somewhat empirically.

In these days of the rapid diffusion of knowledge the fame of panaceas of all sorts is quickly heralded from one part of the world to another, but we cannot always be certain whether the light on the horizon is a sign of dawn or merely a will-o'-the-wisp to lead us into realms of still greater uncertainty. Our experience with tuberculin and the knowledge that many cases (as in diphtheria) recover should alike make us doubly cautious at the present juncture.

A hopeful sign of the times is seen in the present reaction against the use of the heart-depressing antipyretics except in extraordinary cases. Their abuse upon their introduction was beyond all reason, and it is a matter for congratulation that a reaction in this respect has already begun.

Another important matter is the necessity of urging upon the public the acceptance of the contagious nature of tuberculosis. As long as travellers go up and down our land scattering its germs, just so long will it continue to ravage our population. Public ignorance upon this point must be enlightened by the missionary work of the medical profession, and the enactment of proper laws upon this subject be required.

New Departures in Therapeutics.—Dr. John H. Hollister, of Chicago, read a paper with this title. In order to judge of the medical theories of any age, he said, it is only necessary to study the therapeutics of that age. For many years medical science was compelled to conduct a defensive warfare as we were ignorant of the etiology of morbid processes and were compelled to exhibit our remedies empirically; but the microscope and laboratory have opened up to us fields of great promise, and we now feel the impress of a new era from which will date the renaissance of medicine. The therapy of to-day is aggressive. Twenty years ago the two great therapeutic theories were, first, the cellular, and second, the humoral. At this later day we have, in a sense, made a return to these landmarks, and can now speak of organic therapy, or the therapy of substitution, and of the sero-therapy. The former was ably championed by Virchow, and with the latter the name of Behring is inseparably linked. The organic therapy is based upon the fact that all vital activity has a cellular genesis, and that an equilibrium of all these activities constitutes that condition which we call perfect health. Whenever there is an impairment of cell activity we have impaired function, cell degeneration, and in the worst cases, death. Remedial agents are valuable as they affect cell vitality. Cells have a certain *vis vitæ*, or resistance against morbid processes. They elaborate nucleins, proteids, and albuminoids, which oppose the influence of toxic products. Slight cell-irritation increases cell activity. And in their struggle with bacteria they act not as phagocytes, but throw themselves around the invader so as to surround him with more antitoxin. Cells are supposed to have a selective power of absorption. Hence have arisen a series of nutritive extracts made from various organs. The theory of Brown-Séquard, which was so much ridiculed at first, has now become better understood and followed out in a logical way. With two substances of this latter group the writer has had some practical experience. He has used red bone-marrow for the past two years for simple anæmia, and has seen better results therefrom than previously with arsenic, oil, or iron. He has also used nuclein, though the discovery of this is not a new thing. Vaughan has already shown that there are certain substances which can be extracted from animal tissues, notably the thyroid, spleen, and bone-marrow, which, when injected into the animal economy seem to have an antiseptic power in the alimentary canal, stimulate the brain and nerves, and energize all vital processes. Nuclein seems antidotal to diphtheria, and the cell reaction which is originated by its use increases the nuclein supply of the body.

As to sero-therapy, it is a logical outcome of the germ-theory of disease, which itself grew out of the discovery of cell agency in fermentation, the discovery of living organisms in pus, the conveyance of germs through the air, and their appearance in the blood and tissues; then followed culture-work, and, finally, the causative relation of specific microbes to specific diseases. Finally came up the principle of systemic infection from germ-growth over and above the local effect of their ravages. To oppose this physiologically came the discovery of the germicidal power of blood-serum and the establishment of the doctrines of artificial immunization, first proven with respect to anthrax, and now with reference to several other maladies. Important points to decide are the dosage of the serum to be injected, and the fact as to its permanency in our armamentarium.

In the opinion of our German *confrères* its introduction in diphtheria has reduced the mortality from forty-four per cent. to twenty-one per cent. One observer, out of five hundred and twenty-five cases had a mortality of only eighteen per cent., though before the serum injections it had been twenty-one per cent. At the recent Medical Congress in Munich it was declared to be the sense of the meeting, first, that it is harmless; second, that many observers have seen good results from its use, and third, that as to its prophylactic power, the question is still open.

Several points yet remain unsettled. We do not yet know enough as to the possible globicidal power of the transferred serum to say whether the remedy is perfectly safe. Nor are we well acquainted with the effects and counter-effects of mixed infections. But if infectious diseases are developed by micro-organisms, and if blood-serum is injurious, other means of therapeutic value may yet be found. Edinger, of Freiburg, has noted that the mucous secretions and saliva are distinctly antiseptic and that both contain a large relative percentage of thiocyanate of potassium. He has combined this substance with quinoline and produced a compound called rhodonate of methyl-pyridine. Solutions of this check the growth of Loeffler bacilli in one hour (1 to 1,000) and that of staphyloccus aureus (3 to 200) in the same time. It is not caustic, as carbolic acid, nor poisonous, as bichloride of mercury.

The discussion on this paper was opened by Dr. W. C. Quine, of Chicago. He had used the extract of bone marrow and could give his unequivocal endorsement as to its value in simple anæmia and in cases of apparent progressive pernicious anæmia. In a case of splenic leucæmia, it had increased the hæmoglobin eight per cent. and the red cells seventeen per cent. Yet notwithstanding this the multiplication of white cells went on with even greater rapidity than before. So that there was a great increase in the volume of the blood by reason of the augmentation of its cellular contents.

In the use of the diphtheria antitoxin, he had seen various eruptions, and in one case, bloody albuminuria, the case, however, recovering. But he had also had some very striking recoveries in cases where laryngeal or nasal involvements were threatened, and it appeared that death would result in a day or two without injections were made. Relief in a few such cases had led him to cherish a distinct regard for the new remedy; nevertheless, it was a gift horse whose merits needed the closest inspection.

Dr. F. B. Turck, of Chicago, had seen good results

follow the use of nuclein in the auto-intoxication which results from gastric disorders. This might show itself as a nervous irritability (neurasthenia so-called) or in a soporific depression leading up to melancholia. The toxines from germ growth are upon the intestinal walls, and the use of nuclein has seemed to get directly at the cause of the trouble. Especially good effects have been seen in vasomotor excitation ("flashes," etc.) and in patients with agoraphobia. The substance is not a specific, but is a great addition to our therapeutic resources.

The Physiological Action and Therapy of Calomel in Gastro-Intestinal Disorders.—Dr. W. Blair Stewart, of Atlantic City, N. J., read a paper with this title, based upon a study of the drug in 144 cases. Much of the calomel we use, he said, is impure. Large doses frequently cause griping and pain. This may be due to the adulteration of the remedy, its improper purification, or atmospheric changes. The mercuric bichloride is the most common abnormal ingredient, varying in quantity from a trace to large amounts. Even fatal cases have resulted from calomel administration. Other abnormal ingredients are barium, calcium and lead, which lessen the action of the calomel and may even render it absolutely inert. The remedy should never be administered in connection with acids or chlorides, nor should it be given while gastric digestion is going on, owing to the danger of bichloride formation. It is heavy and slow of assimilation, owing to its non-solubility, the large size of its individual crystals, and the small area of distribution over the alimentary tract.

The calomel we use, therefore, should always be carefully tested. The familiar ammonia test will reveal a strength of one part in one thousand, but the especial thing to do is to triturate the calomel finely with milk sugar. Thereby are the crystals much smaller and the area of distribution is greatly increased. A simple mixture is useless. Trituration must be insisted upon.

The writer is in the habit of using the remedy thus prepared in doses of one-tenth of a grain every hour or half hour until one grain is taken or until evacuation follows. If necessary an ounce of the magnesium citrate solution can be given the next morning. The combination of calomel with soda prevents bichloride formation and favors the alkaline absorption necessary for the absorption of the remedy. He has never observed any diuretic effects *per se*. It may be indirectly diuretic by its general stimulating effect on all the emunctories. In a case of scarlatinal nephritis and in one of mitral dropsy no increase in the urine was noted from its use, though both cases did well on the usual alkaline diuretics, and in one hundred cases in children no diuretic influence of calomel could be discerned.

It is believed that calomel increases the flow of bile by its directly stimulating effect on the liver cells. In diarrhœas it is partly absorbed and partly may have a local antiseptic action. It neutralizes toxines and prevents germ growth. It increases peristalsis and brings about all the good effects which come from flushing the duodenum with nature's cathartic and antiseptic bile.

In adults, Dr. Stewart combines one grain of calomel with one half grain of podophyllum, divides into twelve powders and gives one every two hours. From two to six powders will usually cure the diarrhœa of improper food. Astringents are carefully avoided. In children, so small doses as one one-hundredth (triturated) combined with a minute dose of powdered ipecac will accomplish marvellous results. Good results in the dysentery of adults and in the flux of typhoid are also witnessed. Occasionally sulpho-carbolate of zinc will succeed where calomel fails. In twenty cases of diarrhœa from alcoholism, one-fiftieth calomel with one half this quantity of podophyllum every three or four hours has given the greatest satisfaction.

The discussion was opened by Dr. Chatwell, of Iowa, who asked if the essayist regarded the small doses of calomel as germicidal.

Dr. Steuart replied that he did not, in the strict meaning of the word. Calomel acts by direct stimulation of the liver cells.

Dr. H. D. Didama, of Syracuse, asked if these small doses of calomel are not converted into bichloride, and is not their efficacy due to this fact? If so, large doses of calomel should be more stimulating than small ones.

Dr. H. A. Hare, of Philadelphia, said that it was now proven that calomel was not converted into bichloride in the stomach. This is the chemical truth, though clinical experience would seem to demonstrate otherwise. Calomel is a purgative, while the bichloride is a true cholagogue. Under the influence of the intestinal juices, the former is probably converted (a portion of it) into the gray oxide. As to contamination, examination by a Philadelphia chemist of various tablet triturates and powders on the market had not shown any bichloride contamination; but with triturates combined with the bicarbonate of soda, there was some of the gray oxide.

Dr. Steuart, in closing the discussion, declared that in our laboratory reactions with glass vessels and fixed reagents, we did not exactly reproduce the conditions of the human organism. As to calomel being or not being a cholagogue, the answer was that when we exhibit it we get bilious stools. We don't really know just which chloride starts up the bile flow. As to contamination with bichloride, his experience differed from that of the chemist, for he had found the corrosive preparation in calomel.

Treatment of Asiatic Cholera.—Dr. Elmer Lee, of Chicago, read the paper. After giving a description of the classical features of the disease, he alluded to some of the drugs of reputed value in its treatment. Calomel, salol, and quinine have all proven broken reeds. Iodine as a per-iodate is useless. Uretin for the kidneys and digitalis for the heart are at the best only adjuvants. In the last epidemic at Hamburg, water acidulated with hydrochloric and sulphuric acids was given freely as a drink. Hypodermoclysis of one-half per cent. normal salt solution kept up the volume of the blood and so fulfilled one indication. The great problem was how to remove the toxines in the shortest possible space of time. Ten years ago Ferrán, of Valencia, had introduced inoculation for the disease. Haffkin had followed him, but the results of both were worse than useless. The true remedy is undoubtedly in the abundant use of pure water, both by the mouth and by rectal injection. It should be given warm, and though a little be vomited its use should be persevered in. We cannot use too much. The colon should be flushed four times daily, and from one to ten quarts given by the mouth. Diet must not be neglected, and the body heat must be kept up. Dr. Lee also exhibited a new variety of fountain syringe.

Dr. John H. Hollister discussed the paper, stating that he had passed through four cholera seasons and had found the two most useful remedies to be large injections of tannic acid in water and the free use of cinnamon infusion by the mouth. Neither remedy is, however, experimentally germicidal on the cholera bacillus. Cinnamon water was also useful in the irritability of the intestinal canal in children in summer diarrhœa.

SECTION ON SURGERY.

First Day, Tuesday, May 7th.

The Section on Surgery was called to order and opened by the reading of an address by the chairman.

Stone in the Kidney and its Operative Treatment was the title of the address delivered by Dr. Joseph Ransohoff, of Cincinnati. Stone in the kidney is not a rare affection. Many cases are found only at autopsies, no tangible symptoms existing during life.

On the other hand, no other affection of the kidney is so often erroneously supposed to be present as stone.

Crystals in the urine do not absolutely indicate stone in the kidney. Many cases have been operated on for stone where crystals persisted, but stone was found. On the other hand, stone has been found where no crystals existed.

Red-blood Disks.—These are far more important when existing at every microscopical examination made, and especially so when associated with acid pyuria. This is especially valuable when by the aid of the cystoscope we eliminated the bladder.

Operative Treatment.—Choice must be made between simple incision and extirpation or partial resection of the kidney. As to the latter operation it should only be used as a last resort. Large size, confirmation, and multiplicity of the calculus ought not to weigh in favor of nephrectomy, since with longitudinal incision along the renal convexity, ample room for manipulation can be obtained.

Where shall Incision be made?—Hemorrhage and the end result as to a cure without a renal fistula must be our guide. Along the convexity of the gland, therefore, the longitudinal section made as in an autopsy would be the least likely to wound the larger vessels, and the resulting hemorrhage would be parenchymatous, which could be reduced greatly by temporary compression.

Fixation of the kidney should be the concluding act of every operation upon the kidney.

Summary.—In conclusion, the following theses are presented for consideration :

1. An absolute diagnosis of stone cannot be made.
2. Nephro-lithotomies must be divided into those of necessity and of choice.
3. Pyuria and microscopical hæmaturia, as evidences of beginning destructive changes, are positive indications for operative exploration.
4. The oblique incision is to be preferred for the ease with which it permits the exploration of the entire kidney.
5. Acupuncture is not to be relied upon.
6. Incisions should be made along the convex border, and only when the circulation is controlled by digital compression.
7. Incisions into the pelvis of the kidney for exploration and removal of a stone are to be avoided.
8. Primary nephrectomy for stone should be reserved for extreme cases.
9. Primary union by suture, where feasible, makes nephro-lithotomy an ideal operation.
10. Tight packing of the kidney wound and prerenal space endangers the nerve-supply of the colon.
11. Nephrorrhaphy should form the closing act of every operation which has seriously disturbed the relations of the kidney.

Æro-urethroscopy was the title of a paper read by WILLIAM K. OTIS, M.D., of New York City. Since the invention of the original illuminating apparatus little, if any, change has been made in urethroscopic tubes. In 1892 the first instrument combining air inflation and illumination was made by E. Hurry Fenwick, of London. This instrument was cumbersome and heavy, and the distance between the glass of the diaphragm and the meatus is over two and a quarter inches. In making application the diaphragm must be removed, laid aside, and replaced, making an annoying break in the rhythm of the operation. The illumination from the concave mirror is inferior to that of a plano-convex lens. All these objections the author of the paper claims he has removed in his perfected instrument, in which the diaphragm is placed on a pivot and can be swung aside when making applications.

The advantages claimed for this instrument are :

1. Ready access to the urethral field for the purpose of making local applications under the direct control of the light.
2. Minimum distance between the eye and the urethral mucous membrane, hence a better and clearer view of the field.
3. Extreme lightness.
4. Simplicity of construction and moderate cost.

The difficulty in obtaining a thorough appreciation of the morbid conditions present in many obscure cases which present, when the urethra is implicated, despite its many drawbacks the aero-urethroscope furnishes us with a new means for investigation and an aid to diagnosis which no urethroscopist of the present day can afford to ignore.

Value of Urethroscopy in Chronic Urethritis was the title of a paper read by DR. FERDINAND C. VALENTINE, of New York City. This paper was practically a demonstration of instruments, divided into four parts :

Modern Urethroscopy.—The instruments shown were the Posner urethroscope, which is practically a prolongation of the old meatoscope without an obturator. It is made in two forms, a tube vertically cut off ; the other terminating obliquely, illuminated by light thrown in at the top of the funnel.

The Casper Urethroscope is a more extensive apparatus. The tubes are longer than the Posner. They have an obturator and at the visual end a rim fitting into a handle provided with condensers and prism by which electric light is reflected into the urethra. This instrument requires considerable experience in its use to be valuable.

Nitze-Oberlaender Urethroscope.—This has a light-carrier which is inserted into the tube, placing the light at the points examined, the urethra being protected from the naked light ; two small tubes allow a current of cold water to flow around the light.

Cystoscopy.—In renal diseases the cystoscope is of surpassing importance. The patient passing blood or pus, by the use of this instrument we can eliminate the bladder and tell which kidney is affected.

Catheterization of the Ureters.—This, as is well known, is done with the aid of the cystoscope, and after inserting the catheter in place the cystoscope may be withdrawn, enabling us to see the urine ejected in spurts of a few drops at a time at regular intervals, and giving us urine free from vesicle contamination, whereby we can make an absolutely correct microscopical examination.

SECTION ON DISEASES OF CHILDREN.

FIRST DAY, TUESDAY, MAY 7TH.

Address by the Chairman.—DR. EDWARD H. SMALL, of Pittsburgh, Pa., remarked that this was the sixteenth meeting of the Section. The address was devoted entirely to business matters.

Typhoid Fever in Infancy and Childhood.—DR. WILLIAM B. NOYES, of New York, read the paper. Although the subject had been much discussed in late years the author ventured to bring it up again on account of the great uncertainty prevalent regarding it. While some authors spoke of having seen many cases of the disease, others, such as Northrup and O'Dwyer, of the New York Foundling Asylum, were sceptical of its occurring in childhood. This asylum has seen nothing of it. The Nursery and Child's Hospital does not record it. The Children's Hospital of Philadelphia reports never to have seen a case, where there is the largest children's service in the United States.

In contradistinction, however, there are many observations of it in European institutions. In London, 1870–1871, one hundred and twenty-six deaths occurred under five years of age, eighteen per cent. of all cases. In 1880, 58 deaths, thirteen per cent. In 1881, 83 deaths, eight per cent. of all deaths from the disease.

French institutions also give reports of the disease, as do those of Berlin and other European cities.

It is not so important to know whether the disease among children ever occurs sporadically or only during

epidemics, as it is to be able to diagnose it in particular cases when actually met. It is particularly liable to be mistaken for something else, such as malaria, gastro-enteritis, broncho-pneumonia, tuberculosis, or meningitis. Pathological lesions—the ordinary lesions of typhoid. In infancy all the abdominal viscera will be found congested. The swelling in Peyer's patches occurs earlier in children than in adults. On the whole, however, the changes are less severe. Sanarelli's experiments on animals show that the artificially produced disease shows almost the identical condition as that described as found in children.

Diagnostic Symptoms (as characterizing the disease in children particularly).—Long continued fever, not yielding to quinine, of gradual onset, highest in the evening when there are conditions existing in the throat, lungs, bowels to offer explanation. The continuous fever seems to be well borne, the child plays about with little prostration often.

Gastro-intestinal disorders and constipation, or putrid stools if diarrhœa be present. The diaper is apt to absorb the fluid which gives character, pea-soup, to the diarrhœa, which will be observed if discharged into a vessel. Lack of acute symptoms of an intestinal nature. Tongue symptoms similar to those in adults, but sordes and extreme condition not so apt to occur.

Symptoms.—Fever, lenticular spots; these may occur early or late, in two or three crops. Headache, indicated by rubbing or picking at the head, nose, or ears, burrowing the head into the pillows, but not by active symptoms like those of meningitis. Important to make out enlargement of spleen, but not easy in the young—a painful spleen more important point. Tympanites present, usually moderate. Bronchitis would seem to be a regular symptom. The bronchia excrete the Eberth bacilli, it has been demonstrated. Angina has been observed. Epistaxis is rare.

Neither in children nor in adults can the Eberth bacillus be demonstrated in the stools until the tenth to the twentieth day. It is doubtful whether it has been demonstrated reliably in children. A number of authorities have failed to do it in adults. The stools swarm with all sorts of bacteria. The disease appears in three forms—an abortive type of short duration; a type resembling the ordinary one of adults; a malignant or prolonged type. Convalescence, as a rule, is quicker than in adults, and the mortality is less. Abortive cases are frequent, according to a number of observers. Many cases last from eleven to twenty-one days in children. Still these cases may have all the characteristic symptoms of the protracted disease. It should be borne in mind that other acute conditions produce changes in Peyer's patches and in other parts of the intestine in children similar to those of typhoid.

After the ulceration has occurred the condition in typhoid is one of septicæmia. As the disease progresses the specific bacilli become less numerous, while other kinds multiply, such as the streptococcus, pyogenes aureus, albus, etc. Possibly the abortive cases are those in which the bacillus of Eberth alone operates, while severe cases are those in mixed infection, analogous to conditions present in other diseases, such as diphtheria, scarlet-fever, etc.

Dr. John E. Woodbridge, of Youngstown, O., then read a paper on the same subject. It is the same disease, and governed by the same causes, at whatever age it occurs. The morbific agent is present. It only varies by the amount and quality of this and the degree of intoxication. Every case of typhoid fever may be aborted by proper treatment, and by a mild method, too, of treatment. Treated symptomatically, it is very grave and fatal. The general practitioner does not adequately realize the actual frequency of this disease in children. Text-books hardly mention it. Still, my experience shows it not infrequent. Three-fourths of cases of so-called brain fever are typhoid fever; so of congestive fever and meningitis, they have been in many cases proved on autopsy to have been typhoid fever. Cases were referred to by the author of several reporters of eminence. It is very important that this prevalent opinion regarding the absence or rarity of typhoid in young children should be corrected, to avoid the fatal results of erroneous treatment most particularly. Intestinal hemorrhage rare in author's experience in children. The author illustrated the points of the paper by a number of cases.

The danger of mistaking the disease was illustrated in relation to treatment.

Treatment.—Disinfection of the intestinal canal by carthartics and antiseptic medicines. Diarrhœa is not a contraindication for flushing out the intestines by catharsis; medicines should by copious draughts of fluids.

Malaria in Children.—Dr. W. S. Thayer, of Baltimore, read a paper on this subject.

Paper discussed the disease in relation to the malarial parasites. Three varieties named: Intermittent, remittent, so-called typhoid malarial.

In intermittent the parasites are present in enormous numbers in the blood. The paroxysm is supposed to be due to some poison suddenly set free by these parasites in some way unknown at present upon their accumulations at periods in the blood. The various period of paroxysms are due to different characters of the parasite in the system. The regular types occur more early in the season, while the irregular ones later in the autumn. The discovery of these parasites is the only means of positive diagnosis.

The parasites are the same in children as in adults. The demonstration of the plasmodiæ is not difficult. Take a clean cover, slide, and glass. Take the blood from the finger—in children better from the lobe of the ear, while asleep or so as not to be seen. Touch the drop of blood with the tip of the cover-glass in taking it up so that the blood will spread better—small drop—cover and spread and dry in the air; stain and mount; stain in aqueous solution methylene blue.

Guaiacol in Typhoid Fever.—Dr. Adolph Koenig, of Pittsburgh, Pa., read a paper on "Guaiacol in the Treatment of Typhoid Fever in Children."

The increase in frequency as age increases of typhoid fever is probably due to greater exposure of the intestinal canal by diet and drink. When the ulcers of the intestines have occurred, the treatment of the disease resolves itself into that of surgical antiseptics and disinfection.

Initiatory Treatment.—Clear out the bowels by calomel, triturated with sugar of milk, $\frac{1}{10}$ grain every hour.

Regular Treatment.—A mixture of guaiacol is given throughout, and other measures as may be indicated. Cold sponging alone is used as an antipyretic. No depressing medicines for this purpose should be used. Guaiacol is not regarded as a specific, but as a feasible antiseptic remedy.

Brandt Method in Children.—Dr. Samuel S. Adams, of Baltimore, read a paper on this subject. In the summer of 1893 the method was put in use at the Children's Hospital. The charts of the hospital since that date speak more strongly in favor of the treatment than anything else. The only real test of the method is to apply it in all details as directed by its author, and the application should be directly under the supervision of a competent physician and not entrusted to a nurse. The bath must be taken to the child, not the child to the bath—bathe at the bed side. A teaspoonful of whiskey before giving the bath. Begin with water from 70° F. to 80° F. Next day it may be of lower temperature, if well borne with this temperature the bath will reduce the child's temperature very considerably. Always take the temperature in the rectum in children. It is not reliable taken in mouth or axilla. Delirium will be removed after a bath; sleep often being produced immediately. The delirium, if it recurs, will always be of milder character. Tempera-

ture charts of cases were displayed by the reader of the paper to illustrate the effects of the method as employed in his own hospital cases.

The only death in the service since August under diligent tub-bathing was one in which there was a false diagnosis. The author also related a case in which there were periodical hemorrhages, delirium, and other serious complications, the case lasting seventy-two days, in which there was at times high temperature, requiring over seventy baths. The case recovered, notwithstanding all expectations to the contrary.

Dr. William Osler, of Baltimore, agreed that the course of typhoid is, on the whole, milder in children than in adults. He had noticed the tendency to its onset with head symptoms. It was not an original observation, for Dr. Enoch Paine, of Boston, many years ago, had noticed the lesions of Peyer's patches in other diseases than typhoid fever in children. Autopsies more recently have corroborated this.

Treatment is the burning question after all. Whether it is not better not to say anything than to come forward with such positive statements as made by Dr. Woodbridge, is a question. It is not in accordance with truly scientific practice to make wholesale claims. It is more like newspaper work than science. The remark referred to was the claim that there was no excuse longer for the loss of a single case of typhoid fever seen at an early period and in which a diagnosis was made. The speaker preferred the trained nurse to the house physician to administer Brandt baths.

Dr. William Pepper spoke of the difficulty of diagnosis, especially in presence of the many germ diseases, known and unknown, which confuse the situation.

He has been treating typhoid in children over thirty years—feels more and more modest as his experience increases. The ultimate test in diagnosis will rest upon correct bacteriological and chemico-physiological conclusions.

The Brandt treatment is capable of misapplication and misuse, should not be adopted with unvarying routine, but by intelligent individuation of cases, like all other measures or methods. But in ordinary cases it is of great benefit.

Disinfection of the Intestine, and Antisepsis.—The use of some remedy which shall prevent or modify the toxication of the system, if it may be found, is the great desideratum. The direct local treatment by diet and disinfection before the necessity of the application of Brandt's treatment will save cases, lost otherwise, whatever may be done after the poison has been absorbed beyond a certain degree. Liberality should be practised in treating this disease. Dogmatism should be avoided.

Dr. J. A. Work, of Elkhart, Ind., continued the discussion, among other things remarking that elimination of the poison is the first measure in the treatment, then apply antisepsis.

Dr. George N. Acker, of Washington, remarked that he and Dr. Adams were on the service of the same hospital, but he depends more on other means than Brandt's method. He has discontinued its use, largely because of its depressing effects. Prefers to use water by means of spinal compresses and other less vigorous means than that of Brandt.

Dr. Atkinson, of Baltimore, remarked: The error of diagnosis in typhoid fever in children is largely due to the general expectation that the disease runs a typical course. As soon as we cease to look in children for the typical case of typhoid and acquaint ourselves with the actual conditions which do occur in the course of the disease, then it will come to be recognized.

As regards the Brandt bathing, the good results are not by any means confined to the single one, that of reduction of temperature. Its merits are apparent as well in the general improvement, the checking of delirium, the quieting of nervous symptoms, restlessness, the inducing sleep, etc. Of course this method should not exclude rational measures of other kinds. Removal of toxic intestinal accumulation and antisepsis especially, must not be neglected in the present state of our knowledge of the nature of the disease.

One speaker emphasized the importance of judicious stimulation, which thus far no one had referred to. Another speaker referred to the impracticability of relying upon bacteriological examinations for diagnosis in this disease, because, as was shown by the reader of one of the papers, Eberth's bacillus was not discoverable until from the tenth to the twentieth day in the intestinal discharges.

Dr. Larraby, of Louisville, Ky., remarked in part: We boast about wonderful advances in medicine, but the doctor of fifty years ago would not be at much disadvantage in the present discussion. We do not seem to have got at much that is reliable beyond what he knew. He spoke of the characteristic hebetude, the typhoid headache, etc., which he thought must be present to render diagnosis reliable in children, as well as in adults. But in the progress of the disease in children the third week was wont to be cut off.

Is the chief object of treatment to keep the patient comfortable? or is it not to abort and modify the actual disease? Is it important to suppress the temperature, for that is what lowering by baths really does. As for how to actually abort or to modify the disease, the speaker ventures to express the opinion that we are not far from where our fathers were.

Another speaker remarked that we have no specific yet, we must therefore rely upon rational methods which experience has taught to be useful—bathing being one of the most useful of these.

Dr. S. Solis Cohen was very emphatic in pointing out the errors of those who spoke of the Brandt treatment as one whose object was to lower the temperature. It does two things more particularly. First, it alleviates nervous irritability, calms excitement, and allays delirium. Second, it stimulates metabolism. It has been shown that urotoxic elimination is increased by cold bathing, etc. These are the real objects of cold bathing, the lowering of temperature is incidental, important though it may be.

It is absolutely important that the patient should be put in a warm bed and stimulated after the Brandt bath in order to prevent depression.

Dr. Woodbridge, in rebuttal of criticism, asked if the speaker would pronounce him derelict for not employing Brandt baths, etc., when without these he had for eighteen years treated thousands of cases without any death. He believed that within five years, notwithstanding present severe criticisms, a method of treatment, he would not say his own, but one on the lines of it, would be adopted which would result in the absolute elimination of the mortality of typhoid fever.

Dr. Adams in rebuttal remarked that he believed that he had been misunderstood in his reference to the supervision of baths by the house physician. He expected the nurse to apply the bath, but under skilled supervision. He further remarked that he was not aware of any reliable means of intestinal disinfection for the disease.

Revolt of Italian Students.—The University of Naples was recently closed for a year on account of insubordination of the students. Soon after this a meeting of Roman students was called together in the college quadrangle to express sympathy with their fellow-students at Naples. This was so disorderly that the police were called. The students then held a mass meeting in the Colosseum, which ended in a fight with the carabineri. The faculty being unable to enforce discipline, Dr. Baccelli, the Minister of Public Instruction, closed the University of Rome for a year, as he had before that at Naples. The other universities are now in trouble, and even the advanced school for higher studies at Florence is affected.

MEDICAL AND CHIRURGICAL FACULTY OF THE STATE OF MARYLAND.

Ninety-seventh Annual Session, held at the Hall of the Faculty, Baltimore, April 23 to 26, 1895.

DR. ROBERT W. JOHNSON, PRESIDENT; DRS. JOSEPH T. SMITH AND ROBERT T. WILSON, SECRETARIES.

FIRST DAY, TUESDAY, APRIL 23D.

THE ninety-seventh annual session of the Medical and Chirurgical Faculty of the State of Maryland was called to order at twelve, noon.

Pernicious Delay in Surgical Cases.—This was the subject of the address by the President, DR. ROBERT W. JOHNSON. (See page 578.)

Certain Sanitary Needs of our City and its Public Schools.—This was the subject of a paper by DR. EDWARD M. SCHAEFFER, in which he spoke first of the large number of cows and cow-stables within the city limits, their unsanitary condition, and the fact that these cows were never taken from their stalls except to be milked. He showed what good the Milk Inspection Act had wrought. Then he dwelt on the importance of cleanliness, and especially personal cleanliness and the needs of increased facilities for public baths. The defects in the public-school buildings were manifold, in lighting, in ventilation, often in heating. The hygiene of all that pertained to schools and scholars was considered and suggestions were made.

A Plea for the Sight of our Little Folks.—This was the title of a paper by DR. GEORGE A. FLEMING. Few persons are born blind. The majority of causes of blindness and defective eyesight are preventable. The eyes of infants are sensitive. Exposure to great light, negligence in cleansing the eyes of the new-born, accommodation defects from the too early use of the eye, as in kindergartens, and other causes, are responsible for eye defects and blindness.

DR. E. M. SCHAEFFER was glad to hear of papers of such educational value, and thought the subject of child life one that was less understood than any other department of medicine. Professor Stanley Hall had pointed out the fact that much too minute work is expected of children's muscles. Delicate work for the eyes should be discouraged.

Typhoid Fever in Country Districts.—This was the subject for general discussion before the Society. DR. WILLIAM OSLER said: The dwellers in cities have a very deep concern in the prevalence of typhoid fever in country towns and districts. In the first place we treat in the city many cases that originate in the country, cases which too often go to swell our mortality bills. During the past six years I have had under my care in the public or private wards of the Johns Hopkins Hospital 89 cases which came from outside the city limits. The figures are as follows, from a total of nearly 400 cases: From Baltimore County, 58; from Maryland, outside Baltimore County, 14; from outside Maryland, 17.

Secondly, we take our holidays in the country at the latter half of the summer and in the autumn, the very seasons when typhoid fever is most prevalent. Since we have no means of knowing the number of cases which occur annually in the city, we have, of course, no way of ascertaining how many have been the unfortunates who, in seeking health in country resorts and seaside places, have found serious illness, and not infrequently, death. General impressions are not of much value, but I think there are many doctors in practice in this town who could give some specific figures as to the number of persons who have returned to town with the disease, or who have been attacked while in the country. Cases of the kind have not infrequently come under my observation during the past five or six years, and I know of instances in which many members of a family have been infected during their residence in country places.

Thirdly, our water supply is derived from streams which pass through fairly populous districts in which every autumn typhoid fever prevails.

And lastly, the country sends daily for our consumption an enormous quantity of food material, namely, milk, which is especially liable, under suitable circumstances, to infection with typhoid germs.

The following questions may be profitably discussed by this meeting: First, the prevalence of typhoid fever in country districts. We naturally turn for the statistics to the Report of the State Board of Health. So far as I can read in the last published report of this body for the years 1892–93 the references to typhoid fever are very scanty, and no statements are to be found from which one may glean any information about the incidence of the disease in the counties and towns of the State. I would like very much to ask the Chairman and the Secretary of the Board the reasons for this omission. The matter is of extreme importance and directly concerns the health of the city. There were 257 deaths (I include the typho-malarial fever) last year (1894), but who can tell us how many cases? Shall we put the mortality at ten per cent. and say 2,570, or at fifteen per cent., and say 3,855 cases? We may take no small shame upon ourselves as a profession that such a state exists. It is useless to scold Dr. McShane, or to abuse the members of the State Board of Health. Such a condition at this end of the century is a disgrace to us as a profession, and to us individually. The Report of the State Board, to which I referred, indicates weakness, inherited or acquired, of a most disastrous quality, and if any member of this ancient and honorable Faculty can read the same without a blush I am sorry for his intellectual medulla. The notification of every case of typhoid fever in the city and throughout the State should be enforced at the earliest possible date. We could then ascertain the percentage of cases which really originate within the city limits, and by a proper system of co-operation of the County and State Boards every local outbreak could be studied and precautionary measures taken.

A second question, which can be discussed with advantage, relates to conditions in the smaller towns and country places favoring the development and spread of typhoid fever. Outbreaks of typhoid fever in a town like Cumberland, in which the people had been drinking water contaminated by the sewage of from one-fifth to one-fourth of the population, are of course not remarkable. But such outbreaks are not nearly so dangerous to us in the city as the smaller house-epidemics in country places, which are by no means uncommon. In many of these it is extremely difficult to trace the infection. There are instances, as the remarkable one I put on record a few years ago of a farm-house in Hartford County, in which, during the months of August, September, October, and November, there were ten cases with four deaths; nine of these followed the arrival of a member of the family from Ocean City with what was thought to be malaria, but which turned out to be severe typhoid. The water supply in this instance was certainly not contaminated, since it was used in common with another large family consisting of many persons at the susceptible age. Here the food supply might have become in some way infected, though Dr. Sappington, who had charge of the cases, seemed to think that it was most probably transmitted by direct contagion.

A State Board of Health of any efficiency would receive early notification of every house outbreak, and with a proper corps of inspectors suitable means could be taken to prevent, at any rate, diffusion of the poison. How interesting it would be to know just how many cases of the disease occurred last autumn along the watershed of the Gunpowder and Jones's Falls, both of which streams are liable to pollution. We can never be free from danger on this score until the city has complete control of the streams.

The third point for discussion, and in reality the most important one, relates to the possible contamination of the milk-supply of this city. How many cases of typhoid fever occur in the families of those who in this State supply milk to the citizens of this town? Can Dr. McShane answer, or can any member of the State Board of Health answer? Or if they cannot, can they tell us how to obtain the facts of our next typhoid season so that an answer could be given? The dairy industry, as we all know, is enormous, and one of the greatest import in the health of the city. The readiness with which typhoid fever is transmitted by milk has been amply demonstrated; nor does it require that a man ill himself with typhoid fever should milk cows or be in contact with the milk. A man whose boy is ill with the disease, or the woman who has been nursing her daughter, may readily, in several ways, carry the infection. As a medium for the development of the typhoid bacilli milk is well known to be most favorable. It is not alone from the water of a contaminated well used for washing the milk-cans that infection arises, but in many instances from the direct contact of the dirty hands with the milk, or the vessels in which it is placed. The only possible safeguard is in a rigid system of inspection of every dairy which supplies milk to the city, an inspection which should be frequent, systematic, and thorough.

I have no desire to take up the time of the faculty with figures from other localities. There are those which show, as in New York State, that while typhoid is progressively decreasing in our large cities, it is progressively increasing in the country districts. Baltimore, with a mortality from this preventable disease of between 5 and 6 per 10,000 of population, ranks with the unsewered towns, the sanitary conditions of which are still antique. We shall probably never reduce the death-rate from this disease to the ratio of modern cities until the cesspool system is completely abolished. But before that great work is undertaken the citizens should demand that at any rate the sources of contamination from outside should be reduced to a minimum; that our sources of water-supply should be scrupulously guarded; and that our citizens should be guarded against all possibility of infection through the milk.

The points, I think, which could be discussed with advantage this evening are: first, the actual prevalence of typhoid in the country districts and small towns throughout the State; second, the measures which should be adopted to prevent contamination of our water-supply; and thirdly, the question of the inspection of dairy farms.

Dr. Charles M. Ellis, of Elkton, thought that country typhoid was much less fatal than its city congener. Vital statistics in country districts are usually received with distrust. In 1884 and 1885 there was a typhoid epidemic in Elkton from infected milk. In the twelve months following there were one hundred and thirty cases with three deaths. English statistics give higher rates. The advantages of country salubrity are offset by the good nursing of the city. Of the cases of milk origin, none were fatal, which made him think that perhaps milk cases were less fatal than water cases. It is very hard for a physician practising in a malarial region not to believe in such a disease as typho-malaria. In spite of systematic writers to the contrary, the two diseases are so often combined as to very effectually influence each other. Many towns have a good water-supply but have no sewerage system. It is not the throwing out of the typhoid dejecta in the privy vaults that does the harm and spreads the disease, but throwing it out on the surface under the impression that this is a safer method. From here it finds its way into neighboring wells. Those who use well water run greater risk than those using water from a water supply. There are many difficulties of enforcing sanitary laws in small towns and in country districts. The township system would be a great benefit to Maryland. Scrupulous cleanliness in the sick-room, the instant disinfection of each stool as it is passed, the care of the bed-clothes and the proper choice of food are what can be done anywhere.

Dr. C. Birnie could only speak for his part of the State. They had had one general epidemic of that disease and several local ones. The mortality was about five per cent. The water-supply may be at fault, but the question is an exceedingly complex one. Typhoid fever depends also on the channels of the water-supply, the flow of the ground-water, the trend of the rocks. Other factors than the mere presence of the germ cause the disease. He has seen a sudden outbreak from a sudden thaw after a hard freeze flushing all streams and wells. Similar conditions may be existing for years when suddenly in some unexplained way an outbreak will occur. He thought that bored wells were the safest. The general impression is that springs are better, but they are liable to receive the surface drainage, and as they are generally at a low level, may receive the overflow from the privy pit. Strict sanitary laws are needed in the country. As it is the health officer in country districts has very little authority, and has a thankless task; and unless he has much tact he is constantly offending other physicians and their patients.

Dr. James F. McShane, Health Commissioner for Baltimore, spoke of the water-supply of cities and small towns and the methods of preventing infection. He had little knowledge, he said, of country water-supply, but he spoke against the open well as drawing to itself impurities in the soil for long distances around.

Dr. L. E. Atkinson, in referring to Dr. Osler's remarks, thought there was a great difference between statistics in and out of a hospital. Some cases were so atypical that they did not come under the physician's care at all. These cases of ambulatory typhoid are often not recognized until in some cases sudden death reveals the eroded intestine. This makes the mortality much smaller when such cases are taken into consideration. Want of cleanliness or care on the part of a young and inexperienced nurse may spread the disease. It is caused by the water-supply and by milk, and the latter is more often the cause than is generally supposed.

Dr. George H. Rohe thought that many cases of acute tuberculosis were mistaken for typhoid fever. Many cases spread the disease through ignorant and inefficient attempts at disinfection, because so many persons thought that the addition of one of the many so-called disinfectants killed the germ. Too many of the so-called germicides are entirely inert. Water at 130° F. will destroy the typhoid germ. Let the water boil and by the time it is added to the stools it will still be hot enough to disinfect.

Dr. William H. Welch said it was difficult to trace the origin of the disease, especially in a given case or a group of cases. We are inclined to be too adherent to one exclusive source, such as water, milk, etc. It may come from the soil, from the dust. We have no proof of this, but it cannot be disproved. Even the spontaneous origin cannot be disproved, but it cannot be proved. Rubner says the typhoid bacillus may be a saprophyte. All agree that the special point is in the prophylaxis. Good water, clean milk, are necessary, and we should do everything possible to improve the sanitary arrangements in all directions. Special problems relate to typhoid fever in country districts. One is the great reluctance to recognize the disease, perhaps due to local patriotism. It is an index of the sanitary condition of that district. It is considered a reproach to have the disease in large amount. We should have information of the number of cases in any district, not for curiosity but for sanitary reasons. He heartily seconded the suggestion of Dr. Osler to stir up physicians to unite and learn all they can about this disease. The city should be protected beyond its boundary. There should be

co-operation between city, State, and county boards of health. One reason why we are so backward is because we have no national board of health. Disease does not respect artificial boundaries. The national need not interfere with the State board but only as a co-ordinating agent. He agrees with Dr. Atkinson that we must have central filtration; self-purification is a delusion and a snare. The detection of the typhoid bacillus in water is very difficult; so difficult that it has no practical value. The typhoid bacillus lives from six to eight to twenty days in water, and in the soil for an indefinite period, at least three months. The incubation period of the disease is twenty to twenty-two days. We should guard against contaminating the soil, and must not be too hasty in blaming the milk or water. The detection and demonstration of the bacillus in these liquids is very difficult. No house can stand a too minute examination; some sanitary defect will be found, and the physician is satisfied, when, perhaps, he has not discovered the real cause. A thorough cleaning up on all sides reduces the chances of the disease.

Dr. James A. Steuart, Secretary of the State Board of Health, said that absence of vital statistics throughout the State was due in part to the apathy of the physicians of the State.

The question was further discussed by Drs. Thomas S. Latimer, John R. Uhler, and William Osler.

"Subconjunctival Injections in Profound Ocular Inflammations," was the subject of a paper by Dr. E. J. Nernstein. "Surgery of the Nasal Septum," was a paper by Dr. George Thomas.

Second Day, Wednesday, April 24th.

"The Quantitative Determination of the Rennet Zymogen; its Diagnostic Value in Certain Diseases of the Stomach," was the subject of a paper by Dr. Julius Friedenwald. "Case of Syphilitic Endocarditis Causing Mitral Insufficiency." This was by Dr. Charles O'Donovan.

Peritonitis Caused by Invasion of the Micrococcus Lanceolatus From the Intestine.—Dr. Simon Flexner read this paper, in which he said that several cases had been reported of acute purulent peritonitis in which this organism had been found as the cause. It escapes from the intestine into the peritoneum, and he wished to report two additional cases. He described the micrococcus lanceolatus. It does not possess great vitality. It is strange that it can reach the intestinal canal. The easiest mode of ingress is by being swallowed, were it not that the stomach secretions quickly destroy it. It passes the portal of the stomach at a time when the secretion is not acid. Once there it is capable of being developed, but not to a great degree. It causes dysentery. It is not present in great numbers. It passes through the intestine at a place where it is weak. In one of his cases there was a chronic dysentery with acute exaccerbations and in another case there was pelvic peritonitis, with which he had been ill one week before coming into hospital.

This paper was discussed by Dr. P. C. Williams.

Dr. John W. Chambers read a paper on "Note on Sarcoma with Reports of Cases."

Bullet Wounds of the Liver and Stomach—Closure by Tampons.—This was a report of several cases by Dr. L. McLane Tiffany. It was a bullet wound of the upper abdomen, where operation is so difficult. By suture and tampon he saved the patient. Immediate operation was the important point.

The paper was discussed by Drs. R. Winslow and R. W. Johnson.

"Aseptic Cultivation of Protozoa," by Dr. C. O. Miller, and "Protozoic Infections with Demonstrations of Photomicrographs and Specimens," by Dr. T. C. Gilchrist was a very elaborate paper.

The Relation Existing Between Gall-stones and Hepatic Abscess.—This was a paper by Dr. W. M. Lewis, in which he showed how great care in examining the blood and urine helped him toward the right diagnosis.

Dr. William H. Welch said that the bile duct was free from bacteria, except at the mouth of the common bile duct. Bile has very slight antiseptic power, and we cannot explain the absence of bacteria. It is very common for bacteria to wander from the duodenum into the bile duct. A very large number of bacteria perish in passing down the intestine, but in the duodenum they have not as yet perished, and we have a greater number of them and a greater variety. If gall-stones are present, the opportunities are favorable for a growth of the bacteria. The formation of abscesses circumscribed is very rare. The bacillus coli communis is very common in the gall-stones. There is no evidence that the bacillus coli communis can cause abscesses. He has been much interested in the bacteriological formation of gall-stones. There is a relation between the presence of the bacillus coli communis and gall-stones. He had been making cultures from the interior of gall-stones, and in the great majority of cases he has found a pure culture of the bacillus coli communis in the interior of the gall-stone with no bacilli on the outside. The microscopic examination of the pus from liver abscess helps sometimes. It looks like pus with the naked eye, but it is not; it is only broken-down tissue, detritus, etc. This is peculiar to the abscess of the liver due to the amœba, and other kinds do not cause this.

Third Day, Thursday, April 25th.

"Experiments on the Motor Functions of the Stomach," "The Effect of Digestive Diseases on the Heart." These were two papers by Dr. John C. Hemmeter.

The Relation of the Different Types of Malaria to the Seasons of the Year.—This was the subject of a paper by Dr. William S. Thayer in which he said in the various forms of malarial fever the parasite enters into the blood-corpuscle and destroys it, and we have the disease. The parasite develops and undergoes sporulation and at this time a paroxysm takes place, and on the time of sporulation depends whether it is tertian, quartan, or quotidian. In his statistics cases were recorded in the dispensary in every month, but more in July, August, and September than in the other months. In four hundred and fifty-two cases collected, one hundred and thirty-one occurred in the first half of the year, and three hundred and twenty-one in the second half. Most of these were tertian.

Dr. J. C. Harris thought it was important to know where these cases came from.

Dr. I. E. Atkinson said that in his experience in treating cases of winter attacks of the disease he found that if the patient has not had previous attacks, he had been in the locality where he might have had them. He believes from clinical experience that malaria does not originate *de novo* in the months when the temperature runs to freezing point. Those cases carry the organisms in the body, and it does not develop until the vitality is lowered.

Dr. James A. Steuart referred to drinking water as a cause. The paper was further discussed by Drs. G. J. Preston, J. E. Michael, C. O. Miller and S. A. Keane.

"The Treatment of Puerperal Fever—a Warning Against the Indiscriminate Use of Corrosive Sublimate." This was a paper by Dr. J. Whitridge Williams, which was discussed by Drs. J. H. Branham, B. B. Browne, A. K. Bond, Wilmer Brinton, and J. E. Michael.

The following papers were afterward read and discussed: "Persistent Uterine Hemorrhage; its Source, Dangers, and Treatment," was a paper by Dr. Thomas A. Ashby, and was discussed by Drs. R. M. Hall, G. H. Rohe, and J. R. Uhler.

"Careless and Unscientific Midwifery, with Special Reference to Some Features of the Work of Midwives," by Dr. W. S. Smith; "Pelvic Disease and Insanity," by Dr. George H. Rohe; "Tetany, with Report of a Case," by Dr. George J. Preston; "Tetany During Pregnancy," by Dr. H. M. Thomas; "Heredity as a Factor in the Etiology of Idiocy," by Dr. S. J. Fort.

The Causation of Nervous Diseases.—This was the subject of a masterly effort by Dr. M. Allen Starr, of New York, being the Annual Oration before the Society. The knowledge of the cause of disease is most important for a correct understanding of that disease and its proper treatment. After going into the minute anatomy of the nerves and their physiology, he spoke first of exhaustion from overwork and then of defective nutrition from imperfect blood-supply. He concluded the whole with hints at treatment. The address was greeted with applause, and requested for publication in the annual Transactions of the Society. Dr. Starr was then elected an honorary member of the Society.

Fourth Day—Friday, April 26th.

"Melæna Neonatorum" was the subject of a paper by Dr. W. M. Lewis.

Recent Improved Methods of Infant Feeding, with Especial Reference to Modified Milk.—This was the subject of a very practical and instructive paper by Dr. Robert Tunstall Taylor, who compared human milk with cow's milk and showed the importance of getting as perfect a substitute of mother's milk as possible when the latter was not obtainable. He spoke against all baby foods on general principles, and paid a tribute to the Walker-Gordon laboratory for the furnishing of pure milk to families for infants, and as a result of this paper it was moved to appoint a committee to take steps toward the getting a milk laboratory in Baltimore.

The following papers were then read: "The Significance of Variations in the Calibre of Retinal Arteries," by Dr. Harry Friedenwald; "A Contribution to the Study of Pseudo-Membranous Conjunctivitis," by Dr. Hiram Woods; "Three Cases of Purulent Membranous Otitis Media, which ended Fatally," by Dr. William F. Lockwood.

Election of Officers.—The following officers were then elected for 1895–96: *President*, Dr. J. Edwin Michael; *Secretaries*, Drs. John S. Fulton and Robert T. Wilson; *Treasurer*, Dr. W. F. A. Kemp.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, April 5, 1895.

Henry F. Walker, M.D., President, in the Chair.

Salivation of Seven Months' Duration.—Dr. W. Gilman Thompson presented a man who had suffered from salivation and its results for seven months—a Scotchman, about fifty-four years of age, married thirty years, no syphilitic or neurotic history, not addicted to alcohol, in ordinary good health until about seven months ago. At that time he noticed that his gums, anteriorly, on the upper jaw, became quite black, as he described it, and he applied to some physician who told him that it did not amount to much, and gave him a mouth wash. Shortly after that the whole gum became swollen and hard, lower as well as upper, and almost at the same time he began to salivate a good deal. The flow of saliva was so excessive that at night he had to collect it in a towel. About this time also his lips became very much swollen and considerably eroded. The tongue and speech had not been affected. What had continued to annoy him most was the swelling and intense burning sensation in the lips. All sorts of applications had been made by the different physicians whom he had consulted, without much benefit. The lips became excoriated, and the patient had an idea that the saliva was acid and on that account caused the swelling and erosion of the lips. By test it was faintly acid.

Although there was no history of syphilis, Dr. Thompson had tried iodide of potassium, and had succeeded in carrying it up to fifty grains a day, with the result of producing greater relief than by any other measure, but he had been compelled to diminish the amount on account of diarrhœa. Since reducing the iodide the improvement had been less marked. The saliva had been tested two or three times, chemically and physiologically, and as far as he could make out it was entirely normal. It was of the ordinary specific gravity, slightly reddened litmus-paper, and digested starch about as well as his own.

Dr. Thompson had been undecided whether the salivation was due to the mouth irritation or was the cause of it, but he had about concluded that the irritation was the cause of the salivation. It was not probable that the man had received mercurial treatment. He had thought at one time of a central nerve-lesion. The urine was normal. Oil or vaseline relieved the lips most.

Excessive Salivation for Four Years.—Dr. Charles L. Dana said that last winter there was a woman in his hospital ward who had had excessive salivation about four years. She had entered the ward on account of this trouble, and was then secreting about thirty to thirty-five ounces of saliva a day. While it caused her some annoyance, it did not give rise to the severe burning sensation of which Dr. Thompson's patient complained. He could give no explanation of it, but was inclined at the time to attribute it to a psychical state. The patient was rather feeble in intellect, and one saw now and then, excessive salivation in cases of mental disturbance. She was put to bed, fed pretty well, given atropia up to a tenth of a grain a day hypodermatically, gradually improved, and was discharged as cured after his term of service had expired. The patient's lips had been somewhat swollen, the mouth rather red, the salivary glands were not tender nor swollen. The house physician examined the saliva and said it was normal.

Dr. Francis Delafield said he thought that in Dr. Thompson's case the excessive increase of saliva was secondary to inflammation of the gums and lips. There were really a good many people who had inflammation of the gums and lips which was exceedingly difficult to account for. He had sent some cases of the kind to dentists and to others, and while he had felt that he was himself quite ignorant about the condition, yet he had not been able to find anybody else who knew more than he did. The behavior was more that of a local inflammation than anything else, probably of parasitic origin, although he had absolutely no proof of it. Some of the patients certainly did get well, and entirely well, under treatment by local applications, while others not. But the only thing which seemed to have done any of them any good was local applications. Constitutional treatment had apparently had no influence.

Dr. Delafield said he had long wondered why this matter had not been brought forward into any great prominence by papers or discussions of some kind, for certainly the condition was one which the physician saw every year, and among the best-to-do people, young and old. He had always felt his own complete ignorance regarding it.

Dr. Kinnicutt said that a somewhat similar lesion of the mouth had been described by Dr. Jacobi, under the name of stomatitis neurotica chronica, and by German observers as a tropho-neurosis. Dr. Kinnicutt had seen several cases which resembled the present one, except in the degree of salivation. The symptoms, as a

rule, had been more or less intermittent, but had extended over a long period, and the lesion had caused much suffering. In his experience such cases had proved exceedingly obstinate to treatment of any kind.

DR. DELAFIELD remarked that some cases, however, did get well. For example, an old gentleman had consulted him about two years ago with sore lips, both upper and lower, and constant flow of saliva. He got well in about two months under local applications made by Dr. Delafield himself, not by the patient. He did not know what was the cause of the trouble, nor, indeed, why it disappeared. Many of the patients had bad teeth, others wore false teeth, which would point to bacteria in the mouth.

DR. KINNICUTT said he had tried every kind of diet, including that directed against gout, but without apparent effect.

DR. ROBERT ABBE thought the history of Dr. Thompson's case was very suggestive of a gingivitis with a parasitic element implanted. Very often a gingivitis started from a very small amount of tartar on the teeth. Add to it a mycotic element, and the trouble might become persistent and aggravated. The salivation seemed to him to be secondary to the irritation of the gums. If the man's teeth were thoroughly cleansed of tartar, and parasiticides were applied around the gums, he would certainly look for improvement.

Morning Diarrhœa.—DR. FRANCIS DELAFIELD read a paper with the above title (see p. 577).

DR. CLEMENT CLEVELAND, in discussing Dr. Delafield's communication, said he had occasionally met with cases of diarrhœa where there were lesions of the uterus and perineum, but not frequently, and in a number there had been relief after operation. He had not studied the cases particularly, but simply remembered that the diarrhœa had been greatly improved after the operation. Usually in displacements of the uterus backward the opposite condition—constipation—was present and it was relieved by pessary or shortening the round ligaments.

DR. C. L. DANA mentioned one case of morning diarrhœa in particular in which large doses of quinine acted as a specific. In other cases he had known dilute phosphoric acid to prove useful. He could also testify to the value of small doses of castor-oil, which acted favorably in other forms of diarrhœa as well.

DR. W. H. DRAPER said he had not infrequently seen all the varieties of colitis, or catarrh of the colon, which Dr. Delafield had described. At least he recognized the varieties. He could not, however, say that he could classify the cases as Dr. Delafield had done. He had seen the different varieties develop in the same patient at different times, mild cases and severe cases. He had been in the habit of looking upon all of them as due to a catarrh of the colon. He thought the nervous symptoms which had been described were very characteristic of this form of catarrh. They were sometimes extremely severe, both with regard to pain and to psychical disturbance.

As to treatment, diet had given him more satisfactory results than drugs. He thought that, as a rule, patients who suffered from catarrh of the colon were persons who were inclined to a diet composed largely of sweets and farinas, and they were relieved by a diet composed largely of nitrogenous foods. He thought the difficulty in carrying out an efficient diet usually was due to lack of directions sufficiently specific in character. The patient might get some relief from cutting off the sweets and starches, and yet feel that he could take fruits, or he might abandon fruits and take starches. But if he would stick to a diet which was absolutely free, if possible, of sweets and fruits, and confine himself to a diet composed of a moderate amount of starchy food, and mainly of nitrogenous food, he would be pretty sure to get relief.

Dr. Draper, said he was not very familiar with the cases which were relieved by gynecological treatment. But even those, he thought, might be aggravated by a wrong diet. There was reason in the dietetic treatment. There was evidence, in the character of the stools and in the distention of the colon with flatulence, of pretty constant fermentation in the large bowel, and this fermentation was certainly kept up more by carbohydrates than by nitrogenous forms of food, and he did not think we could treat them successfully where the cases were severe in any other way than by strict adherence to the appropriate diet.

So far as climate was concerned, this might be sufficient in mild cases, but he could hardly conceive of its being very efficient in severe cases, or cases which had lasted a long time. All were familiar with the effects of a change of air upon catarrhal affections in other parts of the body, and he had no doubt they were efficient also, sometimes, in catarrh of the colon, but for severe cases he did not believe a change of climate or treatment by drugs would be efficient without strict attention to diet.

DR. BEVERLEY ROBINSON spoke of a malarial element. For ten or fifteen years he had seen a good deal of diarrhœa in Newport, in both children and adults, which he was unable to check by astringents or by diet, and after many failures he had come to the conclusion that the diarrhœa was only one manifestation of malarial trouble. In one or two instances he had had the blood examined by a capable microscopist who found the malarial organism. In some cases, where quinine had been given without benefit, compound tincture of bark had been curative. Aside from bark, no other drug had been of so great aid as arsenic.

Regarding diet, he had nothing special to add except to state that in speaking of starches as very pernicious, one should be more specific and name the kinds. Dr. Robinson would never allow patients with diarrhœa to eat of potatoes, while he would allow them to eat of rice. There were people who could partake of rice in almost any form with impunity, while they could not partake of potatoes, nor of bread except in certain forms, as dry toast. In his experience dry toast, rice, and nitrogenous food agreed with these patients better than other food.

To eliminate sugar in absolute terms was, in his opinion, a mistake. He believed that there was no better digestive agent to be found than sugar in small amount. Taken in excessive quantity its action was bad. He could recollect as if it were only yesterday having heard Trousseau say to the students that little dishes of sugar would make the gastric juice rich in the stomach, and he believed it.

DR. KINNICUTT said that while recognizing the different varieties of morning diarrhœa described by Dr. Delafield, and believing that in a large number of cases their origin was to be found in a colitis, at the same time he believed that many of these cases were of the nature of a pure neurosis.

Pure neuroses of the stomach must be admitted, in which there was an increased or diminished secretion of the gastric juice, with hyperacidity or the opposite condition, and it was reasonable to believe that a similar neurosis might affect the intestine, attendant with an increased secretion of the glands, with an exaggerated peristalsis, and even a serous exudation from the vessels. The natural disappearance of all diarrhœal symptoms in certain cases, as the removal of peripheral irritation, such as Dr. Delafield had described, again their disappearance almost directly on a change of climate, even if the journey had been no more than an hour or two, gave support to Dr. Kinnicutt's view. The improvement in the latter case might reasonably be regarded as due to the removal themselves by a changed environment.

Gall-stones.—Dr. Kinnicutt exhibited fifty-nine gallstones varying in size from 10 × 12 mm. to 7 × 7 mm., which had been passed, per rectum, by a patient in his

ward in the Presbyterian Hospital. The case was one of calculi evidently impacted in the common duct. There were the physical signs of a dilated gall-bladder, also the symptoms of obstructive jaundice, and evidence of the existence of a catarrhal cholangitis in an irregular fever of very considerable degree, at one time reaching 106° F., chills, etc. He had advised surgical interference, but in the meantime phosphate of soda, and six to eight drachms of glycerine were given daily to the patient. Suddenly, with a violent paroxysm of hepatic colic, a large stone was passed per rectum, and in succession, during the ensuing forty-eight hours, fifty-eight additional ones. There was constant pain during this period, which abruptly ceased toward its close. Shortly after the detection of the first stone the stools became normal in color. It was possible that the calculi had escaped by ulceration into the intestine, but the symptoms taken collectively pointed rather to a passage through the duct. Dr. Kinnicutt was inclined to be sceptical of any effect of the phosphate of soda and glycerine in promoting the elimination of the calculi.

Acute Biliary Colic and Jaundice due to Tumor of the Pancreas.—Dr. Robert Abbe related the case of a patient who for months before he saw him had been having attacks of apparently biliary colic attended by jaundice. He had lost thirty pounds and was in low condition. When first seen by Dr. Abbe there was jaundice and pain, but without distention of the gall-bladder. Believing, however, from the history that there was an impacted stone, or several small stones, he made the usual exploratory incision. The gall-bladder was not found distended, no stones were felt, nothing was found to account for the symptoms except tumor of the head of the pancreas as hard as a raw potato. Anastomosis was established with some difficulty by Murphy's button between the gall-bladder and duodenum, and the patient made a good recovery. The hardness in the pancreas was suggestive of malignant disease. Dr. Abbe had always supposed that malignant disease in this situation caused slow and painless jaundice, whereas in this case the attacks were acute and painful, like in ordinary biliary colic.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE OFFICIAL REPORT ON THE CHOLERA IN 1893—TENURE OF OFFICE OF MEDICAL OFFICERS OF HEALTH—CHANGES IN THE INSPECTORSHIP—THE TUBERCULOSIS COMMISSION—SMALL-POX—DEATH OF MR. SHIPTON.

LONDON, April 20, 1895.

"CHOLERA in England in 1893" is the subject of Dr. Thorne Thorne's Report to the Local Government Board. This report, which has just appeared, has been expected by sanitarians with no little interest, and as the expression of the head of our sanitary department must exercise great influence. Dr. Thorne divides the report into three portions, viz.: The local manifestations of cholera in England, bacteriological study of the disease, and the diarrhœal outbreak at Greenwich. All these were duly chronicled by me at the time, but it will interest your readers to mention a few points now authoritatively given. The report itself will be of great use to sanitarians and all interested in the subject; it is freely illustrated by maps and plates; shows the great value of the measures adopted to resist invasion, and affords fresh proof of the effects of sanitary foresight. No less that sixty-four districts were actually invaded, and in forty-two of these only a single case occurred. The total number of attacks reached two hundred and eighty-seven, of which one hundred and thirty-five died. The disease first gained its footing at Grimsby and Hull, and the maps show that the majority of localities invaded lie within an angle with its apex at the mouth of the river Humber and the sides running northward to York and southward to Leicester. Whether the disease was due to a recrudescence from the previous year or to fresh invasion from the continent is not decided by this report. The first cases were imported in June, but from them the disease did not spread. In August came the Grimsby and Hull outbreaks. There was ample opportunity for entrance at those places, and Dr. Thorne thinks that probably the disease had acquired a footing there some time before the fact was recognized. An immense influx of excursionists was going on at the time and the drainage was faulty, but the water is reported to have been good. The question of oyster contamination occurs here. The oyster-beds are admitted to be liable to be washed by sewage. Both oysters and mussels from these localities are largely consumed uncooked, and it is difficult to shut one's eyes to the danger, which is admitted in the report, although in the most cautious manner. The lessons to be learned from the report are many, the most satisfactory being that our English sanitary work has abundantly repaid us the great cost, and that the methods adopted for preventing invasion have been more efficient than any other system. Our sanitary administration maintained its repute at this trying period and has earned our confidence.

The question of the tenure of office of medical officers of health calls for legislation. In many cases the appointment has been annual, and re-election each year has been looked upon as a mere formality. But recent instances show that the officer is by no means secure and may be got rid of should he happen to offend some of the members of his board. As these may be owners of insanitary properties the position is awkward and may easily become untenable. Recently an officer of nearly twenty years' service retained his post only by the casting vote of the chairman. Something should be done to maintain the independence of these officers and give them fixity of tenure.

Dr. Hubert Airy has been obliged to resign the medical inspectorship of the Local Government Board on account of ill-health. Dr. Seaton Buchanan, the son of Sir George, has been appointed to the position.

The report of the Royal Commission on Tuberculosis has been agreed upon and will be presented to Parliament within the next few days.

Small-pox has continuously declined since my last reference to the subject. There have only been twenty-five new cases in the last three weeks and none of them proved fatal. Last Saturday there were not fifty cases remaining under treatment. From the provinces also the news is favorable.

Leicester, the home of anti-vaccination, has actually established a bacteriological institute under the direction of its medical officer of health.

Among recent deaths I would name, with much regret, that of William Parker Shipton, of Buxton, at the age of seventy-seven. He passed most of his life at the important northern spa, and will be remembered by numerous travellers as well as patients. He was consulting surgeon to the hospital in which so many chronic rheumatics were relieved and to which his son is surgeon. He was also a justice of the peace for Derbyshire. Invalid visitors to Buxton will certainly miss his genial presence.

Cremation in Italy.—The number of crematories in Italy in 1894 was 23, and there were 2,509 bodies cremated. Although Italy was one of the first countries to agitate the question of cremation as a substitute for earth burial, the reform has not made very rapid progress, owing to the hostility of the Church.

UPON TRANSPLANTING TESTICLES.

To the Editor of the Medical Record.

Sir: I have read with interest the report of the meeting for April 8th, of the Surgical Section of the Academy, and regret that I could not have been present during the discussion of Dr. Walker's interesting paper upon undescended testis. Allusion was made to attempts to draw this organ down into the scrotum, and to other operative plans, both when, as is the rule, hernia accompanies this condition, and when the retention of the testis in the canal is alone the abnormality. But none of the speakers alluded to a plan which I had the honor to suggest years ago, and which may be found in my article upon hernia in Wood's "Reference Handbook," vol. ix., page 415.

I refer to the very simple and safe procedure of placing the organ in the loose cellular tissue behind the inguinal canal, and leaving it there, no longer subject to the painful pressure which must be the case when the testicle lies in the canal, subject to muscular contraction; and driven between unyielding aponeuroses.

It is not invariably the case that an undescended testicle is sterile, and even if it were, many patients, as a matter of sentiment, prefer to keep it, rather than have but one. And when we consider the difficulty and frequent failure of the ordinary plan—that of endeavoring to stretch the cord, dissect up, partly, the epididymis, and otherwise induce the testicle to enter the scrotum, and then to keep it down there, this plan to which I allude is beyond comparison easier.

It is the belief of the writer that in this device will be found a great advance in the treatment, also, of inguinal hernia in the male, operated upon for radical cure by whatsoever method.

Let us consider a little. What is the weak spot in the perfection of any and all of the twenty or so modern plans which I have recently written up in this article just alluded to, upon radical cure of hernia?

It is the fact that by any—even that of Bassini, which I think commonly the best—we still have instead of a solid abdominal wall, a wall with a hole through it, for the spermatic cord to traverse. This cannot be a tight-fitting canal, either, or we produce varicocele. Being moderately loose, it to a certain extent invites a return of the hernia, upon the wedge principle.

Dr. Halsted, recognizing this fact, has in the plan of operation which bears his name, advocated always reducing the size of the cord (and hence the calibre of the canal) by cutting away three-quarters of all the pampiniform plexus of veins, and leaving enough, barely, to permit exit of blood from the testicle.

If, now, it is sound sense to try to make this canal small, a little further application of common sense shows us that it would be better still to have no canal at all; to have as solid and firm a belly-wall here as anywhere else, instead of a wall with a hole through it. And that is exactly what I am advocating.

To accomplish it adds not two minutes by the watch to the operation, nor any danger. There is nothing easier. Let us suppose that the usual steps in a Bassini operation have been gone through, up to the point where the conjoined muscles—internal oblique and transversalis—having been stripped bluntly and freely from the external oblique above and the fat and fascia beneath, are about to be stitched to Poupart's ligament, thereby making a strong muscular rear wall to the inguinal canal instead of the weak one supplied by Nature.

At this point in the operation, before doing this sewing, let us simply strip the transversalis even more freely beneath with the finger, so that a space is left between muscle and peritoneum into which a small orange could be placed without being subjected to pressure. Now draw gently upon the spermatic cord, until the testis is brought forth from its bed in the scrotum. Anyone who has tried this knows that it is but the work of a moment, without any trouble, and then, with a snip of the scissors the cellular attachment of the testis to the bottom of the scrotum is severed. The cord is now neatly wrapped around the testicle, to prevent kinking and hence obstructed circulation, and both cord and testicle are placed in the comfortable bed prepared for them, as already described. Now the ordinary steps of the Bassini are resumed, and the muscles sewn to Poupart's ligament, and next the split external oblique aponeurosis is united, and so on. But, observe, there is now left a solid wall, and no inguinal canal or rings at all to invite a return of the hernia.

For all practical purposes that testicle is as good as ever. Simply, it is taken out of the cold world and its possible buffets, and transformed into an ovary.

As to the question of function, I fail to see the slightest reason why the testis so placed should differ from one in the scrotum. Let no one compare it with the ordinary undescended testis, so commonly sterile and painful. The latter lies in the inguinal canal, subject to firm unyielding pressure on all sides; a most uncomfortable place. Whereas, it must be noted, our transplanted testicle is behind the real abdominal wall, and is not subject to pressure in the least. It has nothing but fat, fascia, and peritoneum between it and the bowels. And its own coiled-up cord, encircling, still further protects it.

It would be unwise to place it within the actual peritoneal cavity, both because there might be adhesions between it and the bowels, and because of the well-known absorbent and digestive action of the peritoneum. For this last reason one would naturally expect what a Scotch experimenter proved true some three years ago: that testicles placed within the peritoneal cavity shrink and atrophy more or less in the case of dogs.

The writer would not venture to offer this plan to medical men, however attractive it is logically, had he not tried it repeatedly (now six times) within the past few years. And in no case has there been complaint of any discomfort in the new ovary, nor (so far) a return of the hernia.

It will be obvious that the patient's consent must be gained; but when the advantage is explained, that should not, as a rule, be difficult. It is very different from advising castration, with the same object in view.

One objection has occurred to me as worthy of thought: namely, what if the patient shall at some time subsequently develop epididymitis on that side, after gonorrhœa or otherwise? This complication would, I think, be less apt than usual to occur, because of the testicle being so well elevated. We all advise the suspensory bandage in gonorrhœal cases, with this thought in mind. But if the epididymitis should actually occur, then a very fair plan of treatment of the testis in the scrotum would be equable, gentle pressure, support, elevation, and poulticing (heat and moisture). And all of these the swollen organ would assuredly find in its new position, without our having to do more than relieve pain by drugs.

However, if it be admitted that our patient with hernia will probably have his chances of permanent cure bettered by transplanting testicle and cord, I hardly think the consideration of a possible outcome of a possible subsequent venereal disease should cause us to vote against the operation.

In conclusion, it is of course well known that certain other efforts have been made to close absolutely the inguinal region. Several are described in the article upon radical cure of hernia already mentioned (Wood's "Reference Handbook"). Of these, Halsted's and Frank's are the most original. The former, as stated, reduces his cord about three-fourths in size. He drags it out toward the anterior superior iliac spine, making a new deep ring farther outward than natural, and sews the inguinal region solidly, conducting the cord just be-

neath the skin and superficial to the muscles from the new deep ring to the scrotum. But after all is done, he has still an inguinal ring instead of an absolutely solid wall. Moreover, surgeons doubt whether so great a reduction in the number of spermatic veins as a sacrifice of perhaps three-quarters is desirable for the welfare of the testicle.

As to Frank's plan (described in Billroth's jubilee volume), it consists in chiselling out of the horizontal ramus of the pubes a deep gutter, through which the spermatic cord is run. Then the inguinal canal is obliterated, with its rings, by sewing all solidly together. The plan is ingenious, but certain theoretical objections, such as callus pressing on the cord, are obvious.

It is my hope that this letter may be the means of inducing others to give a trial to the transplantation plan advocated. Both in radical cure of hernia and in painful undescended testis it seems to the writer well worthy of thought. Very respectfully,

ROBERT H. M. DAWBARN, M.D.

105 WEST SEVENTY-FOURTH STREET,
NEW YORK, April 27, 1895.

HOW THE VALUE OF ANTITOXIN IS DISTRUSTED BY SOME OF THE VERY MEN THAT ADVOCATE ITS USE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: To go through medical literature, and point out to the readers of the MEDICAL RECORD under what circumstances antitoxin has been used as a remedy in diphtheria, I will not venture to do. The task to be accomplished requires more of your valuable space than I desire to take up by this letter. I wish simply to call attention to facts which may be verified by reading the April numbers of your journal.

Therein, one finds articles on the therapeutic value of antitoxin with clinical reports. These articles have all been titled and clothed in such a manner, as to lead the credulous to believe that all the results obtained were only due to this remedy. However, as we peruse more carefully, we find in addition to the hygiene, careful nursing, and watchfulness of the attendants, quite a number of remedies used in conjunction with antitoxin.

For examples: Dr. Cyrus Edson used gray powder, sprays of Dobell's solution every two hours, sodium bromide, and two drachms of whiskey every three hours.

Dr. Joseph S. Healey says: "Of fourteen cases of true diphtheria, I used the antitoxin treatment in but three, but did not dare trust to it alone."

Dr. J. C. Davies, in a report of twenty-one cases, says: "In all cases where the disease had made any considerable progress before the administration of antitoxin alcohol stimulants, together with iron and quinine, were given in connection with it."

Dr. Valentine Brown, in a report of thirty-four cases, used in addition to the serum, in the majority of his cases, stimulants, brandy, whiskey, digitalis, nux vomica, iron, turpeth mineral, antiseptic lotions and, what he calls, "the usual remedies."

As scientific therapists can we attribute all virtues to one remedy when used in conjunction with others? Does not the very fact that others must be used show its weakness, and the distrust of the authors to it alone?

WILLIAM JACOBSOHN, B.S., M.D.

152 EAST EIGHTY-SIXTH STREET,
NEW YORK, April 29, 1895.

An Old Gentleman, one hundred and two years of age, living in Maine, recently fell, as he was preparing to shave himself, and fractured the neck of the femur. He claimed that he had not had to seek medical aid before for eighty years.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 4, 1895.

	Cases.	Deaths.
Tuberculosis	191	130
Typhoid fever	9	6
Scarlet fever	108	15
Cerebro-spinal meningitis	4	5
Measles	255	22
Diphtheria	223	44
Small-pox	1	0

Cheap and Handy Applicators.—Dr. John Winslow, of Ithaca, N. Y., says that the best short cotton applicators are the common four-sided, double-pointed, hard-wood tooth-picks, costing five or ten cents a thousand. The best long ones, for most purposes, are made of iron wire, flattened with a hammer at the distal end and bent into a ring handle at the proximal. The wire should be flexible enough to be easily shaped by the fingers after winding, and stiff enough to retain the shape so given. Such wires, made by the tinsmith at a trifling cost, may be thrown away after once using, or may have the cotton burned off and be used again. They cannot, of course, replace the flat silver applicator where great pliability is required.

Female or Woman.—Dr. Howard A. Kelly writes as follows to the editor of the *American Journal of Obstetrics*: "A good friend with a fine English sense who occasionally looks over my shoulder as I write, left this note ('Female' or 'Woman'?) pinned to one of my papers a few days ago. I think the fault common enough to be worth while correcting publicly. And as it is manifestly an error to which a gynæcologist is more prone than other men, the correction ought to appear in the *American Journal of Obstetrics*: 'Take care not to use the word "female" as meaning a woman. It is correct to speak of the female pelvic organs, but a "female" is not a woman; it is a cow, a mare, any animal of the female sex. It is old-fashioned English to call women females, and the expression is coarse in this sense.'"

Lady Doctor or Physicienne.—A weekly penny paper called *Answers*, which is said to circulate by the million, suggests "Physicienne" as a title for female members of the medical profession, by way of an alternative for doctora, doctorina, and other equally euphonious designations. Perhaps the suggestion is intended as a witticism, for the journal aims, not very successfully, at facetiousness, but if so we question whether the real point of the joke will be apparent to the majority of readers. The meaning ordinarily attached to the word "physicien" in French is conjurer or mountebank; a man who extracts teeth *coram populo*, makes omelets in a hat, or produces endless lengths of ribbon out of his mouth; and although the feminine inflection is absent from the dictionary, "physicienne" can only be regarded as standing for the female of that ilk.—*Provincial Medical Journal.*

The Poultice has recently been examined bacteriologically by Dr. R. W. Lovell, and he happily finds that it is reasonably sterile and non-pathogenetic. It would be hard, indeed, if the soulless searchers after microbes were to lay the ban upon this most comforting and useful domestic remedy. How few mortals pass through this vale of tears without the occasional solace of hot pultaceous flaxseed. As long as there are boils there will be poultices to solicit the streptococci into gentler activity.

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Original Articles.

ERYSIPELAS TOXINS AND ERYSIPELAS SERUM IN THE TREATMENT OF INOPERABLE MALIGNANT TUMORS — FURTHER OBSERVATIONS.

BY WILLIAM B. COLEY, M.D.,

ATTENDING SURGEON TO THE NEW YORK CANCER HOSPITAL; ASSISTANT SURGEON TO THE HOSPITAL FOR RUPTURED AND CRIPPLED, NEW YORK.

SINCE the publication of my last paper[1] I have had a number of results of the highest importance not only as confirming the conclusions already expressed, in regard to the curative influence of the toxins upon sarcoma, but also as fulfilling, in a measure, at least, the prediction then made, that in time we might expect similar results in carcinoma. Moreover, with the aid of Mr. B. H. Buxton, assistant pathologist to the New York Cancer Hospital, a very important modification in the method of using the erysipelas has been worked out, and one that promises to be a great improvement over the earlier methods.

This improvement consists in first subjecting animals to the action of the erysipelas for a time, and then employing the blood-serum of such animals instead of the toxin directly. This does away with the severe reactions and depressing effects that follow the injections of the toxins. The only question which remains to be determined by further experiment is the relative value of the serum and the toxins. In the fall of 1894 Mr. Buxton, in conjunction with Dr. Emil Schmitt, began to immunize a horse to erysipelas, giving constantly increasing doses of virulent cultures of erysipelas, sterilized cultures and bacillus prodigiosus prepared in the same way as I have already described when used for sarcoma.

After the horse had been injected for six weeks, and was able to withstand very large doses with little effect, he was bled, and the serum was placed in small, glass-stoppered bottles and kept in the dark. This serum I have employed upon eleven cases—two very large and advanced cases of inoperable carcinoma and one case of large malignant tumor of the neck, with secondary involvement of the sternum (probably carcinoma), and one of recurrence of carcinoma of the breast.

CASE I. *Recurrent Carcinoma of the Breast.*—The tumor was a rapid recurrence from a primary cancer of the breast, and was situated in the middle of the sternum, and apparently connected with the sternum itself. This case had been treated for several weeks with the toxins without any perceptible decrease in size, although growth had evidently been checked. The injections of erysipelas serum were begun in January, 1895, and continued for two weeks. ℥v. was the largest dose employed. There was no apparent effect on the tumor.

CASE II.—The second case was the largest carcinoma of the breast that I have ever seen. The patient was a woman, fifty years of age, with a history of the growth having appeared about two years before. There had been no operation, and when I first saw her the entire right breast was involved, forming a perfectly symmetrical spherical tumor the size of a two-quart measure, and very protuberant. The semicircumference was eleven inches. The axillary glands were not involved, and there was no swelling of the arm. The tumor was firmly fixed to the chest-wall, and extended from the axillary line to the middle of the sternum, and from the clavicle nearly to the free border of the ribs. The skin over it was closely adherent, and ulcerated over a small area below the nipple. A section was removed and proved to be carcinoma on microscopic examination. The patient's general condition was fair, and she showed little emaciation. The injections of the erysipelas serum were begun February 7, 1895, starting with one minim, and gradually increasing up to twenty. No chill and no reaction followed, but a slight faintness was observed in this as in one of the other cases. The effect upon the tumor was apparent within a few days. The skin over the tumor became less tense, the tumor itself became more movable, and perceptibly smaller. The injections were kept up for several weeks, and the improvement continued. I then substituted the toxins for the serum to compare the relative effect. The tumor steadily shrank in size, and its mobility increased. The toxins were given in large doses (℥ iij. to vj.) which caused a reaction temperature of 104° to 105° F., and the patient showed the effect of the depressing action; still she was up and about the ward every day. The area of ulceration became deeper, and masses of tumor-tissue of considerable size sloughed out at this point.

In April, 1895, the tumor was less than one-half its original size, but, unfortunately, the sloughing had caused an erosion of a blood-vessel of considerable size, and set up hemorrhage that could not be controlled, resulting in death. Autopsy showed the pleura, pericardium, and suprarenal capsules to be carcinomatous. I had never had any hope of a cure in this case, but the striking beneficial effect of the injections in such a case where the diagnosis is established not only clinically and microscopically, but confirmed by an autopsy showing metastases, cannot but be regarded as very strong evidence of the value of both the serum and the toxins in carcinoma.

CASE III. *Probable Carcinoma of Neck and Sternum.*—The growth, which had before been increasing rapidly, ceased to grow, became less fixed, and slightly smaller. In this case urticaria, similar to that described after the diphtheria antitoxin, was observed after some of the injections. In this case, as in Case I., no bad symptoms followed, and the injections caused much less pain than when the toxins were used. This patient is still under treatment at the Cancer Hospital, and the tumor is slightly decreasing in size. Treatment with erysipelas serum begun February 7, 1895.

The remaining cases are recent cases, and it is too early to speak of results.

The doses have not yet been pushed to anything like the probable limit of safety, but the first supply of serum failed to keep well, and only recently has a new supply been secured. This has been made from the blood of a horse that Mr. Buxton had injected for two months with mixed toxins of erysipelas and bacillus prodigiosus. I am now using it on eight cases, four of sarcoma and four of carcinoma, and shall endeavor to determine whether or not it is superior to the toxins used directly. I am giving it in much larger doses and it causes no bad symptoms. If it proves superior to the toxins, as there seems reason to believe it may, a very

[1] MEDICAL RECORD, January 19, 1895.

great step in advance will have been made, inasmuch as the chill and severe reactions, with their consequent depressing effects, will have been done away with. This view is strongly confirmed by the very recently published paper of Professor Rudolph Emmerich and Dr. Hermann Scholl.[1] Their experiments with the erysipelas serum were begun last December, about the same time as my own, though quite independently, and as their cases treated with the serum throw so much additional light upon this most important subject I have thought it of interest to give a full translation of the cases, with a *résumé* of their paper. Before doing so I wish to give a very brief report of my own recent results in epithelioma.

Case I. *Epithelioma of Chin, Lower Jaw, and Floor of Mouth—Inoperable—Apparent Cure.*—This case was reported (*loc. cit.*) as probably only temporarily improved. It is a very important case since it is the first success I have had with epithelioma. The patient, female, aged thirty-four, was admitted to the Methodist Episcopal Hospital in May, 1894, with a rapidly growing epithelioma, involving the central portion of the lower jaw, the floor of the mouth, and all of the softer structures of the chin. There was an area the size of a silver half-dollar, the site of a typically epitheliomatous ulcer. Microscopic examination showed the growth to be epithelioma.[2] Dr. George R. Fowler, in whose service she was, considered the case inoperable and kindly referred her to me. She was under treatment at the New York Cancer Hospital for about ten weeks, during which time the mixed toxins of erysipelas and bacillus prodigiosus were injected into the chin at intervals of twenty-four to forty-eight hours.

As I stated before, the improvement was immediate and remarkable. At the end of two weeks the ulcer had nearly healed and in three weeks it had entirely healed, and the parts had nearly regained their normal appearance. Later on there was an apparent change for the worse, and two small ulcers, about one-fourth of an inch in diameter, reappeared at the site of the original large ulcer. The patient's general condition became impaired from the long-continued injections, and I decided to abandon the treatment for a time the latter part of September, 1894. She went to her home, and the only treatment she has since had has been the administration of tonics and local application of electricity for a time to the small ulcers of the chin. I saw her May 3, 1895, nearly eight months since the injections were discontinued. I could find no evidence of the cancer remaining, and the skin over the chin had regained nearly a normal appearance, and was soft and pliable. Her general condition seemed perfect, and she stated that she never felt better.

Case II. *Recurrent Epithelioma of the Face.*—The patient, aged forty-five, male, had a small recurrent epithelioma of the face involving the lower eyelid. The primary tumor I had removed by operation, at the New York Cancer Hospital, eighteen months before, and microscopic examination proved the growth to be epithelioma. I treated the recurrent tumor at the hospital in February and March, 1895. The growth apparently entirely disappeared, and the patient has returned to work.

Case III. *Epithelioma of the Tongue—Inoperable.*—The patient, a woman, aged forty-nine, had first noticed an ulcer on the right side of the tongue five months before.

In February, 1895, she consulted Dr. F. Lange, of New York, and he regarded the growth as inoperable. Fully one-half of the tongue was involved, from the tip to the base, and the whole tongue was so bound down to the floor of the mouth that the tip could not be projected beyond the line of the teeth. I removed a portion of the growth, and it was pronounced "typical epithelioma" by the pathologist of the New York Cancer Hospital, Dr. E. K. Dunham. After two weeks' treatment with the mixed toxins the growth had so far diminished and the tongue had become so much more movable that it could be projected one inch beyond the incisor teeth.

The treatment was continued two weeks longer, but with no further improvement. Although a failure as far as a permanent result is concerned, this case is of importance since it proves the marked antagonistic and destructive influences upon a very advanced case of indisputable epithelioma.

The following is a report of Professor Emmerich's results with *erysipelas serum.*

Clinical Experiments on the Cure of Cancer by Means of Erysipelas Serum, by Professor Rudolph Emmerich and Herman N. Scholl, M.D.

After describing the experiments by which Emmerich proved that when an animal was inoculated with erysipelas, his blood-serum is curative for anthrax, the author continues:

"After it became known[1] that natural and artificial inoculation with erysipelas would cure cancer, it was a slight step to suppose that this cure is produced, even as the cure of anthrax is produced, by changes which the erysipelas cocci produce in the blood. If this natural conclusion were right, then the blood-serum from an animal inoculated with erysipelas, when freed from its erysipelas cocci, must be a cure for cancer just as well as for anthrax. The conclusion from the analogy is inevitable that the curative serum injures the cancer parasites just as it cures anthrax by killing the anthrax bacilli."

It was found that serum from inoculated sheep was more powerful than from the other animals experimented upon. "The preparation of the erysipelas serum is much more difficult than the preparation of serum for diphtheria. It is necessary to observe numerous precautions, and only certain races of sheep must be employed to obtain a really efficient serum. . . .

"The preparation of the serum is as follows: The sheep which has been inoculated with erysipelas is bled to death, and the blood caught in sterile glasses. After a certain time the serum is removed by pipettes and freed from erysipelas cocci by filtration through a Chamberland or d'Orsonval filter. The serum, which is by these means sterilized without heat, is placed in test-tubes of 10 c.c. each, sealed and preserved in the dark.

"With this erysipelas serum we have treated, in the past six months, a number of cases of carcinoma and sarcoma. In only two cases did it have no effect whatever, and these were cases in which secondary nodules and gangrenous degeneration were present. In the future such cases will not be treated with the serum, as such a condition will be prevented by the earlier use of the serum.

Case I.—"Complete or at least temporary cure was accomplished in the case of Marie H——, aged fifty-four, in whom a total absorption of the carcinoma nodules was accomplished, and up to to-day no recurrence has taken place.

"The patient was sent to us by Professor Angerer as an inoperable case. Two years before the right carcinomatous mamma was excised. In the course of a year following this operation, the patient had two apoplectic attacks, resulting in right-sided paralysis of the extremities and interference with speech. December 14th there existed in the pale skin of the greatly ema-

[1] Deut. Med. Woch., April 25, 1895.

[2] Pathologist's report: "Material from chin and lower jaw (May 20, 1894). Sections were not entirely satisfactory, but from gross appearance of the materials and those revealed by the microscope the diagnosis of epithelioma is offered." Signed (Belcher). This report has just been sent me by Dr. Fowler. A former letter stated the diagnosis as "epithelioma," without qualification. That it was epithelioma or sarcoma, the clinical history and appearance alone, which were so characteri.tic, render doubt scarcely possible.

[1] W. B. Coley: Treatment of Inoperable Tumors. American Journal of the Medical Sciences, July, 1894.

ciated patient, near the operation scar, a hard nodule the size of a pigeon's egg, and a nodule as big as a hen's egg in the right axilla. The skin over the globular nodules was tightly stretched, and a shiny dark red. The entire infraclavicular region above the pectoral muscle was hard as a board and infiltrated with carcinoma, and from this area of infiltration, as big as a saucer, a fistula led into the axilla, where it discharged purulent fluid through an opening as big as a silver half dime. Above the right clavicle in the neck were to be felt one gland as big as a walnut and several as large as hazel nuts. The right arm was markedly œdematous and wholly useless.

"*After only two injections of the erysipelas serum of 0.5 c.c. each, made on two succeeding days, into the nodule the size of a pigeon's egg, this nodule was reduced to one-half its former size, and the skin, which before was tightly stretched over it, became loose. On the third day, after the injection of altogether 2 c.c. of the serum, this nodule has disappeared entirely.* In the meantime daily injections of small quantities of serum (0.5 to 2 c.c.) were made into the nodule the size of a hen's egg, and into the hard infiltration under the clavicle (1 to 1.5 c.c.). The latter diminished so after two injections that it could no longer be felt. On December 18th the hitherto greatly swollen arm was of about the same size as the left, and the patient, who for six months had not been able to move this arm, was delighted 'to be able once more to cross herself and lift her spoon to her mouth.' Over the hen's egg nodule proceeding from the fistula there was fluctuation. An incision 5 ctm. long passed in part through the carcinomatous nodule. A couple of drachms of pus escaped, from which the staphylococcus aureus was developed upon gelatine plates.

"The injections of small amounts of serum (0.5 to 2.0 c.c.) were continued, but not daily, until January 4th. By January 8th the hen's-egg nodule in the axilla had entirely disappeared, and the incision as well as the fistula was completely healed. The right arm was freely movable, and by a simple motion a fracture of the clavicle resulted—a sign that the carcinomatous masses which surrounded the carcinomatous degenerated clavicle were absorbed and the clavicle was deprived of its former support; the glands in the neck could scarcely be felt, and the patient left the hospital January 12th temporarily cured, to return home. This almost complete cure was accomplished from the injection of only 40 c.c. of serum altogether. The doctor who had charge of the case in her home (Dr. Ludwig Krieger), wrote us on February 21st that the patient was troubled with insomnia but was otherwise well. The general condition was good, the fracture of the clavicle was completely healed, and up to date there was no recurrence of the carcinoma.

CASE II.—"The second case, also furnished by Professor Angerer, was an exactly similar recurrent carcinoma after excision of the left breast. Along the scar of the operation there were three hard nodules in the skin from the size of a pea to that of a cherry, and a fourth one as big as a hen's egg in the scar. In the course of a week the patient received daily injections of 0.3 to 0.5 c.c. of the serum in the various nodules. In this short time the smaller nodules entirely disappeared, but the great one was not reduced at all in size; unfortunately the patient left the hospital at this time as she was unable to pay her board longer."

CASE III.—The third case mentioned, one of ulcerating carcinoma of the mamma with metastases in the liver, was not treated by the author, and the serum injections were made only occasionally and in small amounts (30 c.c. in all), but in ten days one small nodule had entirely disappeared and others had diminished at least two-thirds in size.

CASE IV.—"The fourth patient was a lady in Baden-Baden, also a case of recurrent carcinoma after excision of the mamma. A year and a half after operation a carcinomatous nodule as large as a nut had formed in the inner surface of the upper arm in the skin. In fourteen days after the injection of 20 c.c. of serum this nodule had disappeared, but the injections were continued in order to prevent a recurrence.

CASE V.—"A woman, aged thirty-four, with hereditary predisposition, presented a large carcinoma of the right mamma, and a gland in the axilla as big as a goose egg. Since October, 1894, the patient had noticed an increase in size and hardness of the right breast, which did not disturb her, as she was pregnant. January 26, 1895, she was delivered; but the breast continued to increase and grow harder, and on February 23, 1895, she began treatment with us. The breast measured 17½ ctm. vertically; 18½ ctm. from right to left. On February 23d, 2 c.c., on the 24th, 4 c.c., and on the 25th, 11 c.c. of the serum were injected into various parts of the tumor. On February 26, 27th, and 28th, 5 to 6 c.c. were daily injected, and on March 1st, 11½ c.c.

"March 5th.—No further injections having been made, the tumor measured 15 ctm. from above downward instead of 17½ ctm.; while the lateral measurement had shrunk from 18½ ctm. to 16½ ctm. March 4th, 2 c.c. serum were injected into the goose-egg axillary gland and 5 c.c. into the mamma. March 7th, 12 c.c.; March 8th, 8 c.c. serum injected into the tumor. On March 11th, the tumor measured 14 ctm. in each direction; a diminution in circumference of 8 ctm. The goose-egg gland in the axilla was reduced to one-half its former size or less. From lack of serum no more injections were made until March 20th, when 0.5 c.c. was used; March 21st, 2 c.c., and March 22d, 4 c.c. in different parts of the tumor.

"That is indeed a remarkable result, when a tumor which formerly was rapidly growing is after such a short treatment not only stopped in its rapid growth, but actually reduced so much in size! Further the previously board-like carcinomatous tissue has become much softer. While at first the injection required great force, it can now be made as into normal tissue.

CASE VI.—"The sixth case was one of epithelioma in a woman, aged sixty-five, with hereditary predisposition. For nine years the patient has had a tumor in the outer canthus of the left eye, rapidly growing during the last year. In the left outer canthus is a globular nodular tumor 3 ctm. high and 2 ctm. broad, and presenting a small ulceration. Extending from this point across the upper lid is a cylindrical process which has an ulcer on its extreme end. A similar process extends the length of the lower lid. In the orbital subcutaneous tissue above the outer end of the upper lid can be felt a tumor as big as a cherry pit, extending into the deeper tissues.

"After four daily injections of 2 to 3 c.c. each of the serum, the tumor in the outer canthus had completely flattened and degenerated. The cylindrical tumor of the lower lid had completely disappeared. The injections were continued, small amounts (0.5 to 2 c.c.) being used with frequent intermissions (as long as fourteen days). At present the whole tumor has degenerated, and in place of carcinomatous tissue there exist ulcers which appear to be healing. The tumor in the subcutaneous tissue of the orbit can no longer be felt. On the other hand, a growth scarcely as large as a split pea has developed in the ulcer of the upper lid. There is a reasonable ground for belief that this case can be cured by further injections of the serum. This belief is justified by the fact that the ulcer which followed the degeneration of the large tumor has already partly skinned over, and has partially cicatrized along the canthus. But this case requires a further carefully continued treatment. It appears from this that very old carcinomata or epitheliomata recover by degeneration of the carcinomatous tissue and subsequent cicatrization, while younger carcinomata, as we have seen, simply disappear by absorption, and indeed more rapidly the younger they are. . . .

"The description of the cases treated by the serum

proves that it merits the name of a specific for cancer. According to Coley's observations it is probable that erysipelas serum works more effectively against sarcoma than carcinoma. He has found the spindle-celled and mixed varieties most favorable for treatment, while round-celled and osteo-sarcomata are not so susceptible.

In the smaller tumors 1 to 4 c.c. were injected daily. In the larger ones 10, 15, 20, or even 25 c.c. were injected in various parts at once.

"Small doses (5 c.c.) produced no pain. After repeated injections there was a light 'drawing' pain, lasting only a few hours, even after injections of 10 to 20 c.c. In no case was the pain sufficient to require medicine.

"In most cases there was no fever. In no case did the temperature exceed 39° C. (102° F.). No patient complained of headache, anorexia, etc., as a result of the injections. On the contrary the favorable effect of the serum on the general condition of the patients was very striking.

"After the injection of small doses of an active serum, either at once or after a few hours, there appears a false erysipelas, an aseptic erysipelas consisting of more or less swelling of the skin with slight redness. The degree of redness is always less than that of true erysipelas. This erysipelatous swelling extends beyond the limits of the tumor, but naturally does not spread of itself and disappears entirely in twenty-four or forty-eight hours after the injections are discontinued. The stronger this pseudo-erysipelatous swelling, the better is usually the curative effect of the serum.

"Coley's investigations along similar lines have proved that we possess in erysipelas serum a specific for cancer; but we stand yet simply at the beginning of the methods of treatment and that should not be forgotten. Especially must we endeavor to isolate the actual effective substance so that it can be given in determined and when necessary in large doses."

DOUBLE CASTRATION FOR HYPERTROPHY OF THE PROSTATE GLAND—REPORT OF A CASE.[1]

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THE therapeutic value of castration for hypertrophy of the prostate gland was suggested to the profession by J. W. White, of Philadelphia, in a paper entitled: "The Present Position of the Surgery of the Hypertrophied Prostate," which appeared in the August number of the *Annals of Surgery* for 1893. In this article Dr. White showed conclusively, by control operations on the dog, the rapid atrophy of both the glandular and muscular elements of the prostate, following double castration. I will not occupy your time with a review of the cases so operated on, and reported, since that date, but refer you to the appended bibliography.

The history of my case is as follows:

Mr. X——, seventy years of age; married; dentist by profession. The patient has never had any venereal or genito-urinary disease, and has always been most temperate in his habits. Five years ago, without apparent cause, he commenced to have frequent urination at night, which was soon followed by frequency during the day; this symptom has gradually increased until his present condition is as follows:

Patient gets up from five to six times during the night and passes a few drops of cloudy ammoniacal urine; each act takes considerable time and is accompanied by intense vesical and rectal tenesmus, with severe burning pain in the prostate, urethra, and glans penis. During the day he has a desire to urinate about every thirty to sixty minutes, each act being similar to the ones at night, except more severe, the penis becoming congested and partially erect. Patient has been drawing his water with a small Coudé catheter, five to six times in the twenty-four hours, and washing the bladder morning and night with hot boracic acid solution. Of late catheterization has become very painful, and almost impossible at times, the only instrument that he can introduce being a small English gum catheter with stylet. Had retention one year ago, which was relieved by catheterization. Patient has become thin, anæmic, and very nervous from the continuous suffering. The straining has caused several hemorrhoidal masses to protrude. The urine is cloudy, alkaline in reaction, and ammoniacal; specific gravity, 1025; no sugar, casts, or albumin. Pus, $\frac{1}{10}$ by volume. About forty ounces are passed and drawn by catheter in twenty-four hours. External genitals are normal. Patient has good erections, with marked sexual desire.

The Urethra.—A small coudé catheter passes with great difficulty, and draws four ounces of foul, residual urine at 9½ inches from the meatus; this measurement was made with great care to the middle of the eye of the catheter, the patient being in the upright position. Thompson's searcher cannot be passed to the bladder, on account of the posterior median hypertrophy, which is very marked. The bladder holds six ounces of fluid. There is a severe cystitis.

Rectal examination shows the prostate to be very hard, smooth, and tense, and fully twice its normal size. The apex and edges are very prominent, rounded, and firm. The tip of the index finger can just reach the base. Pressure on the gland causes pain and an intense desire to urinate. Combined rectal and urethral examination of the prostate show that the obstruction to urination is due principally to the enlargement of the posterior median portion of the gland, rather than to a general hypertrophy.

December 11, 1894.—Ether; double castration. Cords and vessels tied with gut. Testes and epididymes normal; by an oversight they were not examined for spermatozoa. Slight hydrocele on each side; wounds left open and packed with iodoform gauze. No shock following operation. During the first twenty-four hours after operation there was such severe spasm of the compressor muscle that a catheter could not be passed, and the patient had to be aspirated several times. There was also spasm of the anal sphincter.

December 16th, 5th day.—A small, soft-rubber catheter passed to the bladder; this has not been possible for many months. The desire to urinate comes now about every four hours, at which time he is catheterized, and the bladder washed with hot salt solution. Vesical tenesmus and pain are greatly diminished. The urine is clearer, and is losing its ammoniacal odor.

December 21st, 10th day.—Patient has been up for several days. An 18 French soft-rubber catheter passes quite readily. Examination of the prostate per rectum shows the gland to be much softer in consistence, and absolutely painless on pressure. The apex and edges are much less prominent.

December 28th, 17th day.—Patient's general condition is greatly improved. The prostate feels softer and somewhat smaller than at last note (seven days ago).

January 1, 1895, 21st day.—Patient is gaining flesh, and says that "he eats and sleeps better than he has for years." He passed to-day by the urethra, in a stream, freely and with very little tenesmus, the following amounts of urine: At 4 A.M., 2 drachms; 11.30 A.M., 2 drachms; 3.30 P.M., 2 drachms; 9.30 P.M., 2 drachms.

January 2d, 22d day.—At 4 A.M., passed by the urethra, 5 drachms; 7 A.M., passed by the urethra, 7 drachms; at 7.30 P.M., passed by the urethra, 1 ounce.

January 4th, 24th day.—Total amount of urine voided by the urethra in twenty-four hours was six ounces.

January 8th, 28th day.—Passed eleven ounces by

[1] Read before the Genito-urinary Section of the Academy of Medicine, April 9, 1895.

the urethra to-day, and about one ounce each time. Is catheterized every five to six hours. Patient says "It is a pleasure to urinate and pass his soft-rubber catheter."

January 11th, 31st day.—Twenty-seven ounces passed by the urethra to-day; the largest amount at any one time being three ounces. Has a desire to urinate about every one to two hours.

January 16th, 36th day.—Passed thirty-three ounces by the urethra, the largest amount at any one time being four ounces. The stream is improving in force and size.

February 11th, 62d day.—Patient says he is "absolutely free from all pain." The improvement in his general condition is really quite marvellous; is gaining flesh, has a fine rosy color, and works at his profession, as a dentist, for several hours every day; is passing about thirty-four ounces of urine in twenty-four hours, and from one to six ounces at each time. In the morning and at bed-time he passes a soft-rubber catheter and washes his bladder with hot boric-acid, or salt solution. Urinates during the day freely and painlessly every two to three hours, and at night goes from three to five hours. Has had no erections or sexual desire since the operation, nor has there been any congestion of the penis during urination for the last month.

Examination of the Prostate per Rectum.—The apex and right lower border of the gland are still a little enlarged, but soft and non-painful; the remainder of the gland feels perfectly normal. There is no decrease in the length of the urethra, but patient says that the "lump at the neck of the bladder (about seven inches down) is getting smaller, and that the catheter passes it much more easily;" this so-called "lump" being in reality the hypertrophied posterior median portion of the gland.

March 17th, 95th day.—Patient has gained fifteen pounds since the operation. The urine comes in a good, free stream, without pain, straining, or tenesmus; but still contains a variable amount of pus. He sleeps from five to six hours every night without urinating, and during the day goes about every three to three and three-quarter hours. Patient says that he can hold his water for half an hour or so after the desire comes on. Passes about fifty-three ounces of urine in twenty-four hours. The urethra measures 8¼ inches in length; before the operation it was 9½ inches, thus showing a decrease of ¾ of an inch. Thompson's searcher enters the bladder with ease; this was impossible before operation. The amount of residual urine has been reduced from four to two ounces. The bladder now holds fifteen ounces; before operation six ounces was the limit. Rectal examination shows the prostate to be normal in size and consistence, and absolutely painless, even upon firm pressure.

April 9th, 118th day.—Four months (lacking two days) have now passed since the operation. The patient's condition is practically the same as at the last note, on March 17th, although he says that he has more control over his bladder, and that he is gaining in every respect. He passes a soft-rubber catheter every night, and washes his bladder with hot boric-acid solution. These irrigations are continued, as there is still some cystitis, although the urine has lost its ammoniacal odor, contains less pus, and has become acid in reaction.

I may here state that when I first saw this patient, in December, 1893, he then had cystitis and enlargement of the prostate, but only to a slight degree, as a Thompson's searcher entered the bladder with ease, and the enlargement into the rectum was not very marked. He was then put upon internal treatment, regular catheterization, and bladder irrigations; but in spite of this treatment the prostate gradually increased in size, and he came to me in December, 1894, asking for some kind of surgical relief. Castration was suggested, on account of the sexual symptoms, and readily accepted, as he feared any operation either on the bladder or prostate.

In reporting a single case of castration for hypertrophied prostate, I appreciate fully that it alone proves nothing, and I therefore make no claims whatever as to the curative value of the operation in all cases, nor do I endorse it as a routine treatment, but merely lay before you an accurate clinical report of the results obtained during the first four months. I do believe, however, that when hypertrophy of the prostate is associated with such sexual manifestations as frequent erections, congestion of the penis during urination, and strong and almost constant sexual desire (as is so often observed in old prostatics) that by castration we remove the source of irritation, and by so doing relieve the congestion of the prostate, and in that way cause a softening and diminution in the size of the gland, which is naturally followed by an amelioration of the prostatic symptoms.

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THREE EXPERIMENTS ON DOGS TO DETERMINE THE DURATION OF DIPHTHERIA ANTITOXIN IMMUNITY.

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NEXT to the question of the therapeutic value of the new diphtheria remedy, its availability as an immunizing agent in human beings is of greatest importance. While we have enough clinical evidence now at hand to demonstrate the fact that an injection of the antitoxin confers a temporary immunity against diphtheria in the human subject, an insufficient amount of data are available to decide the question of the duration of this artificial immunity. The solution of the problem by direct experimental methods in man is naturally impossible, and we must therefore be content to accept the results of experiments on the higher mammals until a sufficient amount of clinical statistics shall have been accumulated. The general impression among specialists in this field of bacteriology is that the diphtheria-immunity induced by the antitoxin is of very short duration—the time being usually estimated at one or two weeks.

The experiments which I have here to record were made not only to determine the duration of antitoxin-immunity in dogs; but also to ascertain whether, in an artificial and temporary antitoxin-immunity, it would not be possible to stimulate the production of antitoxin in the blood of the dog by following the diphtheria

.in with large doses of the diphtheria toxins. ..access of such an experiment would pave the way ..ie rapid and cheapened production of the diphtheria remedy. While my hopes in this direction have been defeated, the negative results are still full of valuable suggestions.

EXPERIMENT 1.—A control experiment to determine the effects of the diphtheria toxins on the dog. A healthy male Newfoundland dog, weighing 35 pounds, was given an injection of 25 c.c. of the undiluted toxins.[1] Fifteen minutes after this dose, the dog's temperature rose to 102.5° F., and it was less lively than before the injection. Fifteen hours after the injection the dog was very sick, and would only rise to his feet after considerable urging. His temperature at this time was 101° F. He stood with feeble uncertainty, and when attempting to walk, fell on his side. These symptoms of weakness or partial paralysis, especially marked in the hind legs, became more pronounced until, eighteen hours after the injection, the animal lay helpless on its side. A marked increase in the frequency of urination was noticed during the last six hours of the dog's life; and later vomiting set in, followed by frequent, and ultimately bloody stools. Death occurred twenty-two hours after the injection of the diphtheria poison.

At the autopsy, made an hour after death, hemorrhagic foci were noticed in the omentum, pancreas, spleen, lungs, and especially in the mesenteric glands. The intestines were everywhere greatly injected, and a pronounced congestion was observed in the liver and other visceral organs. A marked œdema, and minute hemorrhages were present in the subcutaneous tissue around the injection-site. Pieces of the various tissues were fixed in Hermann's fluid for future microscopic study.

This experiment shows that these particular diphtheria toxins were exceedingly virulent, killing a large, healthy dog with symptoms of the most profound toxæmia in twenty-two hours, in a dose of 25 c.c.

EXPERIMENT 2.—To a healthy male Newfoundland dog, weighing sixty pounds, 25 c.c. of antitoxin[2] were administered hypodermically March 1, 1895. The animal showed no effect from this injection, and on March 9th, 40 c.c. of the toxins were injected. The next day the dog was perfectly well to all appearances. Forty hours after the injection the animal died quite suddenly, with none of the severe symptoms like vomiting, purging, and frequent urination preceding its death, as was the case in Experiment 1.

Evidently the antitoxin conferred a partial immunity of eight days' duration on this dog, since he tolerated for forty hours a two-fold dose of toxins which killed a control animal of half his weight in twenty-two hours.

EXPERIMENT 3.—A lively female dog, of the water-spaniel breed, weighing twenty-three pounds, was used in this experiment. On March 13th 10 c.c. of the diphtheria antitoxin were injected over the left shoulder; and twenty hours after the injection, 20 c.c. of the toxin were administered. The animal showed no local or general reaction to this dose of diphtheria poison, and two days following, 100 c.c. of blood were taken from its jugular vein. The serum obtained from this blood was tested for its immunizing power as detailed below.

Four days after the first injection of toxins another dose of 25 c.c. was given. The morning following this injection the dog vomited once, and for two days she showed considerable lameness in the left shoulder and leg. Six days later, or eleven days after the use of the antitoxin, 30 c.c. of toxins were administered. This injection was followed by a marked local swelling, which gave place to an indurated and partially necrotic area of skin extending around the injection puncture for 6 to 8 ctm. For two days the dog remained in her box, and seemed unable to move on account of a great lameness of the left leg. This disability persisted for two or three days, when the animal gradually recovered, though some lameness of the left shoulder was apparent at the end of a week. During the first two days following this injection the dog's appetite was capricious and it vomited once or twice. Four days after the injection of these last toxins the dog was again bled for 50 c.c. of blood, from which the serum was obtained.

From this experiment it appears that at the end of twenty hours after the injection of the diphtheria antitoxin a perfect immunity against a large dose of these very powerful toxins was present. At the end of four days the immunity was partially lost, and at the end of eleven days the protection had so far subsided that the dog's life was seriously threatened by a dose of 30 c.c. of the toxins. Still, in virtue of the antitoxin immunity, the animal was enabled to withstand, without fatal consequences, 75 c.c. of this deadly poison.

No further experiment has been made on this dog, which has now regained its health, as I am convined that another dose of toxins would kill it.

In order to answer the question concerning the immunizing value of the blood-serum of an animal artificially immunized by diphtheria antitoxin, and then subjected to a large dose of diphtheria toxins, the following experiments were made.

EXPERIMENT 4.—The serum obtained at the first bleeding of the dog in Experiment 3 was employed. A large female guinea-pig, weighing 540 grammes, was given an hypodermic injection of 0.25 c.c. of the dog's serum. At the same time a control pig, weighing 520 grammes, was injected with 0.1 c.c. of the same toxins employed in the three above-described experiments. The control animal died between the twenty-fourth and thirty-sixth hour after the injection. Twenty hours after the injection of the dog's serum, 0.5 c.c. of the toxins were given to the first pig. This dose represented five times the fatal quantity of the toxins, and the pig died between the thirty-sixth and fortieth hour after getting it. The dog's serum from the first bleeding apparently possessed little, if any, immunizing value.

EXPERIMENT 5.—A 600-gramme female guinea-pig was given 1.00 c.c. of the diphtheria toxins, mixed with 0.5 c.c. of the serum of the dog obtained at the second bleeding. The guinea-pig died twenty-eight hours after the injection, thus proving that the serum from the second bleeding possessed no appreciable neutralizing effect on the toxins when mixed in a proportion of 10 toxins (ten times the fatal dose) to 5 serum.

It would seem fair to conclude from these experiments: 1. That the immunity conferred by an injection of the diphtheria antitoxin is powerfully operative at the end of twenty hours. 2. That this immunity gradually diminishes in the week following the injection. 3. That at the end of eight days the immunity is very much diminished. 4. That the blood-serum of a dog rendered immune against the diphtheria toxin by an injection of diphtheria antitoxin, does not attain pronounced antidotal properties, even though the dog successfully withstands large doses of the toxin.

In the present insecurity of our knowledge concerning the exact nature of the diphtheria antitoxin, and of the seat and method of its production in the animal economy, it is hazardous to attempt the explanation of

[1] These toxins were of the same lot as those injected into our diphtheria-immune horse (see Medical News, March 16, 1895), and were of such a potency that 0.1 c.c. invariably killed a 500-gramme guinea-pig in thirty hours. The horse tolerates, without reaction, a subcutaneous injection of 250 c.c. of these toxins. In proportion to the weight of the animals, it will be seen that a dose of 25 c.c., in the dog is considerably more than the maximum dose employed in the horse.

[2] This antitoxin was obtained from our diphtheria-immune horse at the first large bleeding. The serum was the last abstracted from the blood, and was discarded for clinical purposes on account of its red color. Experiments on guinea-pigs have shown the antitoxin of this bleeding to possess an immunizing value of at least 1 to 60,000, according to the French notation.

many of the curious phenomena witnessed in immunity against this particular disease. As a provisional explanation of certain features of the experiments just detailed, I have assumed that the immunity produced by an injection of diphtheria antitoxin is successful only on account of the presence of the artificially introduced antitoxin *per se;* and that the immunity subsides as the antitoxin is secreted. That is to say that in itself, the antitoxin does not stimulate a further production of an effective antidote in the animal in which it is injected. Moreover, the antitoxin seems to *neutralize*, more or less perfectly, the subsequently administered diphtheria toxins, without calling into play any active defensive function on the part of the animal itself. As a result, no marked production of an antidote occurs in the animal's body, even though it tolerates enormous doses of diphtheritic poisons, as would certainly be the case were the toxins administered alone, in gradually increasing doses, as is now done in the preparation of the new diphtheria remedy.

EPIDEMIC OF TYPHOID FEVER.[1]

Eighty-one Cases—Three Deaths—Treatment.

By C. A. RAY, M.D.,

WINIFREDE, W. VA.

Winifrede is a mining village of about sixteen hundred inhabitants, situated on Field's Creek, a small tributary of the Kanawha River, fourteen miles east of Charlestown. The dwellings, about three hundred and fifty in number, are located along the valley for a distance of four miles. The water-supply is obtained from springs and surface wells. Notwithstanding the efforts upon the part of the Winifrede Coal Company to have our town a healthy locality, the sanitary conditions and hygienic surroundings are far from perfect.

At the extreme upper end of the village is a cluster of houses, six in number, the water-supply being from a small spring. About February 1, 1894, a family moved from up the Kanawha into one of these houses, immediately above and about one hundred feet from this spring. Four or five days afterward, one of this family, a young man, aged eighteen, was stricken with typhoid fever, which ran its usual course of four or five weeks. Regardless of the protestations of the family physician (I was not the attending physician in this family), the slops, alvine discharges, etc., were thrown out without disinfection and ran directly into the spring. During the third week of this young man's illness four others of the same family were stricken with the malady, and within ten days there were seventeen cases in the above-mentioned six houses. About three hundred yards below this spring is a dam, built for the purpose of piping the water to a tank three hundred yards farther down the branch, where the locomotives are supplied. A family using water from this tank had six cases, and, of the trainmen who drank water from the engine tanks, three were attacked at the same time, and in the first week of the first seventeen cases mentioned. At Winifrede Junction, six and a half miles from this spring, several families, rather than carry water up the river bank, drew it from the engine tanks, and the result was that five cases developed in as many families, making in all, at one and the same time, thirty-one cases. From here the malady spread until the total number of cases far exceeded one hundred, and continued till the latter part of November, 1894, concluding with my friend and colleague, Dr. A. M. Spangler, who, after a siege of six weeks and one severe relapse, made, I am glad to say, a good and perfect recovery. I was not able to make a chemical or microscopical examination of the water, but the preceding facts and the typical type of the large majority of cases, I think, make it conclusive that the disease was typhoid fever, and the water the source of infection.

[1] Read before the Charleston Medical Society, March 24, 1895.

I have here a few statistics relative to the 81 cases herein reported:

Number of males	49
Number of females	32
Number of males over twenty-five years of age	18
Number of males from fifteen to twenty-five years of age	13
Number of males under fifteen years of age	18
Number of females over twenty-five years of age	9
Number of females from fifteen to twenty-five years of age	9
Number of females under fifteen years of age	14
Total	81

Dr. Spangler has kindly handed me the following statement:

Number of males	42
Number of females	31
Number of males over twenty-five years of age	15
Number of males between fifteen and twenty-five years of age	22
Number of males under fifteen years of age	5
Number of females over twenty-five years of age	14
Number of females between fifteen and twenty-five years of age	8
Number of females under fifteen years of age	9
Total	73

Making a total of all cases during the epidemic of 154.

Number of cases of relapse, 9. Number of cases of recurrence of fever, 11, followed in 2 cases by relapse, coming on in 1 case after temperature had been normal five days, and in the other eight days.

Complications and sequelæ worthy of notice: Pneumonia in 2 cases; intestinal hemorrhage in 2 cases; pleurisy in 2 cases; acute mania in 1 case; cerebral meningitis in 1 case; facial erysipelas in 1 case; bradycardia, or slow pulse, in 4 cases, in 1 case reaching as low as 32 per minute, when the temperature would be 103½° F., and remaining below 45 two weeks after temperature had reached normal.

Constipation in 51 cases after the second week, due, I think, to the almost exclusive milk diet, a practice which I shall hereafter avoid in the treatment of typhoid fever. Average duration, twenty-six days, the most protracted case being seventy-eight days, and the shortest thirteen days. Number of deaths, 3. Per cent. of mortality, 3¾.

Cases of Particular Interest.—Case I.—David L——, aged forty, married, was taken ill May 13th. My first visit in the afternoon of the 15th; temperature, 101½° F.; pulse, 90; diarrhœa for three or four days; tongue dry; nose bled the day before. Temperature gradually arose till, on the 18th, it reached 103⅘° F.—this being the highest evening temperature for ten days—when it began to decline, and reached the normal point six days later, or June 4th, all other symptoms improving accordingly. On June 6th the evening temperature was 102½° F., and on the 7th reached 106½° F., and continued so, when not reduced by antipyretics, for sixteen days, when it began to decline, and ten days later reached normal, where it remained for eight days, gradually rising again, one degree each day, till the maximum, 103° F., was reached, and again gradually declining, the P.M. temperature being normal for the first time twenty days after the beginning.

Case II.—Joe H——, aged fourteen. Taken ill April 1st. A repetition of the preceding case is the history of this one. The highest temperature of the primary attack, 102⅘° F., of the recurrence, 106½° F., and of the relapse, 102⅘° F. The duration in the former being seventy-eight days, and in this one sixty-seven days. The most perplexing point about these two cases is why a relapse and recurrence should occur, when they were (with one or two exceptions) the only cases under perfect hygienic surroundings and the care of a trained nurse. Self-reinfection is the only solution.

III.—Sam C——, aged twenty-four, single. ill on April 12th; gradual rise of temperature 3½° F. on the 19th; began to decline on the 25th, was normal on May 1st, or the twenty-first day. I informed him that he could sit up on the next day. I called next afternoon and found his temperature 104° F.; abdomen greatly distended; pulse, 108; marked delirium and diarrhœa. Was told by the attendant that a friend had left three or four oranges on the table the night before, and that they had disappeared. Ordered two drachms of castor-oil and thirty drops of spirits of turpentine. Next morning found him much better; temperature, 102° F.; pulse, 100. Left three powders of acetanilid, four grains each, with instructions to give one if the temperature reached 103½° F., and asked a nurse who was attending a case next door to take his temperature, which he did, and gave him one powder at 10.30 P.M., his temperature going to 103° F. The next morning his grandmother, thinking he had a "tremendous fever," gave him another powder. Ten minutes later his temperature was 99° F.; pulse, 100. The same afternoon his temperature was 94° F.; pulse, 145; and, despite the hypodermic use of strychnia, strophanthus, brandy, sulphuric ether, etc., the young man died three days later from heart failure.

CASE IV.—Mrs. J. M——, aged twenty-five. Taken ill July 25th. Highest temperature, on tenth day, 103½° F. Severe diarrhœa, resisting all treatment; four hemorrhages during afternoon and night of twelfth day. Rallied, and diarrhœa ceased after hemorrhages, and temperature gradually declined to normal on the twenty-second day, remaining normal for three days, when a child carried her some boiled cabbage and potatoes, of which she ate, and fever and diarrhœa returned, temperature not going higher, however, than 102½° F., and gradually declining to normal after four weeks, at which time she was very much emaciated; pulse, 60; mentally dull; bowels constipated; pupils irregular and responding to light very slowly; severe headache; abdomen contracted. The above symptoms gradually increasing until there was retention of urine, with corneal ulceration, and she died, comatose, October 17th.

CASE V.—Celia M——, aged twenty-two, the third fatal case, was a poor girl living back some distance in the country, whom I saw but three times, and who died from hemorrhage and heart failure on the tenth day of her illness.

CASE VI.—John D——, aged nine. Taken ill August 8th. Saw him two days later, when temperature was 102⅘° F.; pulse, 120; severe diarrhœa; nose bleeding; abdomen distended and tender. On the seventh day his temperature went down to 96½° F., and remained subnormal for five weeks. At the same time all other typhoid symptoms were well marked, such as delirium, diarrhœa, epistaxis, pulse, dry tongue, eruption, etc. The lamented Dr. A. E. Aultz saw this patient and concurred in my diagnosis, pronouncing it one of the "medical wonders."

CASE VII.—Mrs. J. E——, aged twenty-one, married. Taken ill on June 12th; marked typhoid symptoms; temperature going as high as 105½° F.; pulse, 150; delirium active; diarrhœa severe, stools being involuntary; considerable epistaxis, but no intestinal hemorrhage; temperature began to decline and consciousness returned during the sixth week, and at end of seventh temperature reached the normal point. About this time she became very cross, and expressed frequent and great desire for food. Being limited, of course, as to quantity and quality, she soon developed a typical case of acute mania, lasting eight weeks, her principal delusion being the blissfulness of starvation in a land of plenty.

There were several interesting cases, of which I shall not worry you with details: Two with pleurisy, one with facial erysipelas, recurring the second time and extending over one-half the surface of the body, and three cases in which the eruption was so well marked that it extended over the entire surface, resembling very much the eruption of measles.

Treatment.—I shall not go into details of treatment farther than to say that the initial dose of calomel was given in nearly every case, with happy results, the temperature going down for forty-eight hours thereafter. Hydrochloric acid with pepsin preparations in all cases. Salol, enteric creosote pills, and quinine in solution, in cases where intestinal antiseptics were indicated. All the ice-water they wished to drink. Enema of warm water for constipation always. No laxatives given except in cases where diarrhœa did not respond to ordinary remedies and the presence of foreign matter was suspected. Brandy, strophanthus, and strychnia when the heart began to show signs of failure. Temperature reduced by baths and ice-water enema in most cases. Acetanilid, phenacetin, and antipyrin in some of the most robust patients. Diet almost exclusively milk, either peptonized or sterilized.

Conclusion.—There is not a disease in the annals of medical science so universal and so long known to the profession in which our knowledge is so deficient. We do know that typhoid fever is a contagious, infectious, self-limited disease, running a course of two to ten weeks, and while you scarcely see it mentioned in text-books, varies greater in type and severity than either measles or scarlet fever. In no other disease is the attending physician so often confronted with that most perplexing question in the practice of medicine—the relation of cause and effect. Too often are we implored by friends and relations to give something for unimportant symptoms. Too often do the anxious friends and relations show signs of dissatisfaction with the progress of our case, and we resort to measures of relief, which, in our own conscience, we deprecate. Not until the laity is educated up to these points will we be able to keep our meddlesome hands off, as we are now prone to do in the treatment of pneumonia and treat typhoid fever successfully. When I began practice at my present location several years ago, I battled for dear life with every case of typhoid fever, and the per cent. of mortality in my first two hundred cases was far in excess of three and three-quarters. In the present epidemic I treated the patient, not the disease, and I am satisfied with, if not proud of, the results. I do not mean to say that we can lay aside all therapeutic agents, but I do say the tendency of to-day is to give too much medicine, and the physician who follows a routine will fail utterly. Antipyretics we must use, and of these I have great faith in baths according to the Brandt method, but you cannot use them in all cases, for I have seen patients with typhoid fever whom you could not bathe with any more satisfaction or relief than you could a case of hydrophobia. Aconite, veratrum, digitalis, and nitro-glycerine I never use. Of the coal-tar extracts I prefer phenacetin, and would use that with caution. Of acetanilid and antifebrin, I shall never give another dose in typhoid fever, for I feel this evening that had I, in the case of the young man who died, thrown the powders of acetanilid into the fire and trusted to good nature and a little water, instead of giving them to the old grandmother, I might have headed this paper, "Eighty-one cases of Typhoid Fever, with Two Deaths," instead of three.

The Influenza Epidemic in London has been most severe. During two weeks in March there were 769 deaths, exceeding the mortality for the entire year 1894. The disease has prevailed also throughout the British Isles. In Scotland the death-rate for February of this year was forty-five per cent. higher than that of any previous February since records have been kept. This increase was almost entirely in deaths from influenza and pulmonary affections resulting from it.

SYMPHYSEOTOMY; A CASE OCCURRING IN PRIVATE PRACTICE.[1]

By JOSEPH M. RECTOR, M.D.,

JERSEY CITY, N. J.

THE early accoucheur, when confronted with an abnormal childbirth, due either to deformity in the diameters of the female pelvis, or excessive enlargement of the fœtal head, had recourse but to one means of saving the unfortunate woman's life, that of Cæsarean section, and while this operation was offered as a means of safety to the patient, it was of little consolation because of the high percentage of mortality.

In 1644 Jean de la Courvée proposed division of the symphysis pubis as a remedy for the difficulty, and performed the operation of symphyseotomy; but little success attended his efforts, and with him the operation fell into disuse.

Sigault, of Paris, revived the operation in 1777, but it was left to Morisani, of Naples, in 1866, to again bring symphyseotomy before the notice of the medical world, and to him is credited the honor of placing this operation upon a scientific footing. The many surgeons of Italy at once followed his example, and from the year 1777 to 1858, eighty-six cases were recorded in Italy alone, while for the next twenty years following, seventy-six cases were reported at Naples.

In France the operation did not seem to meet approval until within the last two or three years, when favorable reports were received from Tarnier, Pinard, and Charpentier. The Germans (Freund, Zweifel, Leopold), were the next to advocate symphyseotomy, while in the United States, Dr. Jewett, of Brooklyn, gives to us the first recorded case, in September, 1892.

The French, under the guidance of Sigault, and the Germans, under Freund and Zweifel, have practised the so-called "open method," viz., an incision is made over the symphysis pubis varying in length according to the operator's selection, a stiff catheter is passed into the urethra, and this is held to one side. The finger is passed behind the symphysis on this as a guide, and with a probe-pointed bistoury an incision is made in the cartilage from above downward, and from within outward. The Italians under Morisani and Spinelli prefer the "subcutaneous method," viz., an incision is made in the median line from 3 to 3½ ctm. in length, and terminates 1 or 2 ctm. above the symphysis. The musculi pyramidales are next divided by transverse incisions. The finger is passed downward behind the symphysis and under its inferior border, on this as a guide, Galbaiti's falcetta is carried under the symphysis pubis and the cartilage is divided from below upward, and from within outward.

After the operation it seems to be a matter of choice and preference with the accoucheur whether he shall deliver at once or desist from further interference, allowing nature to complete the delivery. The condition of the mother or the changes in the fœtal heart sounds are his best guides. Zweifel recommends noninterference for twelve hours; Morisani uses forceps in about one-fourth of all vertex cases; Garrigues generally delivers the woman at once.

After the delivery, Pinard places his patient in a bed especially constructed for that purpose. Zweifel sutures the bones together. Garrigues places strips of adhesive plaster around the pelvis and over the trochanters.

On August 21, 1894, at two o'clock in the morning, I was called to the bedside of Mrs. O——, in the tenement district of our city, and found her to be in labor. Upon inquiry I learned that her uterine contractions had begun the day before, they had continued at fifteen-minute intervals, until, at half past one o'clock on the next morning the membranes had ruptured. Upon examining my patient I found the abdomen to be enormously distended, so large that to my mind it suggested the possibility of twin pregnancy, or dropsy of the amniotic fluid. The fœtal heart sounds could be distinctly heard in the right iliac region, and the child was presenting by the vertex, the occiput being to the right and posterior. The vaginal examination proved to me the probability of further trouble in that the internal conjugate diameter was markedly contracted, while the transverse diameter at the brim was somewhat elongated, and the sacral promontory projected well forward into the cavity of the pelvis.

Mrs. O—— is twenty-seven years of age. There is no history of continued sickness in childhood. She has been married three years. Dysmenorrhœa and metrorrhagia are the only pathological conditions of the uterus that have been noticed. In February, 1892, she had one miscarriage. In March, 1893, she gave birth to a small child which lived but two weeks, and upon asking the physician in attendance I learned that the delivery had been an instrumental one.

After the rupture of the membranes the uterine contractions became frequent and stormy, repeated vaginal examinations gave no signs that the vertex was advancing. At five o'clock I applied high forceps and succeeded in bringing down the head but little; after frequent attempts I found the forceps would lose their grip upon the vertex. At six o'clock I called to my assistance Dr. Gray, forceps were again applied, with the same result. Craniotomy or cephalotripsy now seemed our only hope, and with that end in view Dr. Dickinson was summoned. Again high forceps were applied, this time the Tanier axis-traction forceps were used, but they slipped in like manner.

It was now eight o'clock in the morning; in spite of the repeated and prolonged use of chloroform our patient was in an excellent condition, while the fœtal heart sounds were as near distinct as before. Symphyseotomy was proposed, as it offered a means of safety to both mother and child. Our patient was removed at once to the hospital.

Dr. Gray began the operation at ten o'clock, Dr. Dickinson was associated with him, with myself as an assistant. The open method, as before described, was used, with the exception that the subpubic ligament alone remained intact. The division in the symphysis was made with an ordinary blunt-pointed curved bistoury, and great difficulty was experienced because the instrument was not of sufficient strength to withstand the force which it was found necessary to apply in order that the division might be accomplished. The operation would have been facilitated by the use of the Galbaiti falcetta, which could not be obtained without considerable delay and difficulty.

A gaping took place at the upper portion of the symphysis which was of sufficient space to allow the insertion of the index and middle fingers. High forceps were now applied and upon making traction the subpubic ligament was easily torn and with it a long rent occurred in the anterior vaginal wall. At this moment the separation between the pubic bones was about two inches. Traction was continued and a living child was born. A slight uterine hemorrhage followed the delivery and considerable oozing from the newly made wound.

The child, a male, weighing ten and one-half pounds, was in a condition of asphyxiation, and seeing its life at stake I at once resorted to the usual means for its resuscitation. The baby did not return to its normal condition as rapidly as it should have done, and I thought it best to examine him for injuries which he might have received, and I found a multiple fracture at the base of the occipital bone, which I judge must have happened during our efforts at extraction. The child lived six hours after its birth. Its length of body was 23 inches; biparietal circumference of head, 16½ inches; circumference of chest at armpit, 15 inches; weight, 10½ pounds.

Pressure inward was made over both trochanters of the patient, the wound was closed with four silkworm-

[1] Read before the Hudson County N. J., District Medical Society, December 4, 1894.

gut sutures, and a small piece of iodoform gauze served as drainage. The vagina was likewise tamponed with iodoform gauze. A tight muslin binder extending from the axilla to the middle of the thighs easily kept the divided pubic bones in close contact.

After the operation the patient was given five grains of ergotine hypodermically, also one-thirtieth of a grain of strychnine sulphate. The foot of the bed was elevated. During the day the patient was stimulated with brandy and digitalis, and given one-half drachm of ergot every four hours. The temperature averaged 100.9° F.; respiration, 24; pulse, 112. There was no vomiting; milk, lime-water, and broth served as nourishment.

August 22 (second day).—Average temperature, 99.1° F.; respiration, 25; pulse, 98.4.

August 24th (fourth day).—She had a rise of temperature reaching 102.8° F. Two stitches were removed and about a drachm of serum was present; the wound was irrigated and dressings re-applied; the temperature fell, and from this time on she made a good recovery.

September 13th (twenty-third day).—The patient was able to walk about supported under her shoulders. The wound had firmly healed, the pubic bones were in good apposition, the separation of the opposed surfaces was about one-quarter of an inch, the patient had a slight waddling gait, there was an extensive laceration of the cervix and perineum, with slight rectocele.

On September 15th (twenty-fifth day), the patient underwent a second operation for the relief of the lacerated cervix and perineum. Three weeks after this operation the patient left the hospital, she had entirely recovered from the effects of both operations, and was able to continue her daily labors with as much ease as before the primary operation.

In this case which I have brought to your notice, I desire to call attention to the excellent result that has been obtained as to the firmness of union in the divided symphysis, since no other precaution was taken to hold in apposition the cut surfaces of the pubic bones, otherwise than the tight muslin abdominal binder as ordinarily used for the lying-in woman, and again to mention the fact that there was no tendency to the separation of the joint, possibly owing to the firm action of the sacro-iliac ligaments.

Dr. Gray has suggested as a matter of practical importance in the technique of the operation, the desirability for the complete division of the pubic ligaments before attempting to deliver the patient; he is satisfied that the rent in the anterior vaginal wall was caused by the sudden separation of the joint and the consequent distention of the vagina, due to the snapping of the subpubic ligament under the strain of the descending head; had all the ligaments been divided at once the distention would have been gradual and no damage done to the anterior vaginal wall.

This case is brought to your notice to-night because of the frequent references made to symphyseotomy in our medical journals, and because I take it to be the first case of symphyseotomy that has been reported in New Jersey. I have not gone into the discussions pro and con, nor have I stated the advantages or the disadvantages of the operation, I merely ask your attention to this existing condition, which each one of us is liable to meet at almost any moment in his daily practice, and desire you to remember that in the operation of symphyseotomy we have a possible means of safety and protection to the life of both mother and child.

English Dentists.—There are 4,874 registered dentists in Great Britain, of whom 3,479 practise with no special qualification, but on the strength of their own declaration that they were engaged in the practice of dentistry before the passing of the recent act regulating the profession.

RUPTURE OF THE LEFT VENTRICLE—STUDY OF A CASE.

By HERBERT UPHAM WILLIAMS, M.D.,

BUFFALO, N. Y.

Of this case only the following facts relating to the history and post-mortem were obtainable. The patient was a lady about fifty years of age, who, for some years, had had attacks of epigastric pain which may have been anginoid in character. Although spare and not very vigorous, her general health was pretty good. A few days before her death she had one of the painful seizures mentioned, which subsided after taking soda, returning after a while, this time being subdued by chloranodyne, only to return again, the last time with such severity as to require morphine hypodermically. The patient was kept in bed. Morphine was given only once. About the third morning from the beginning the pain became extremely severe, the patient sat up in bed.

The autopsy was not complete, but as far as pursued revealed no striking abnormality outside of the pericardial cavity. The latter contained several ounces of clotted blood. The heart was of moderate size, subpericardial fat abundant, muscle pale, thin, and flabby. The source of the blood was found in a rent in the anterior wall of the left ventricle. An opportunity to examine it I owe to the courtesy of Dr. DeLancey Rochester.

The point of rupture was located 25 mm. to the left of the right margin of the left ventricle, about midway between its apex and base. The external opening was 9 mm. in length, the internal, 16 mm.; both were slit-like and somewhat irregular, passing obliquely from left to right and above downward. The wall of the ventricle at its thickest was 12 mm., of which 4 mm. were fat; at the apex it was 6 mm., nearly all fat. Near the point of rupture, the wall was decidedly more attenuated than at a short distance removed from it. The right ventricle measured 6 mm. in thickness, nearly all fat. An irregular area, including the point of rupture, extending above it on the left ventricle, passing a short distance on the right ventricle, was elevated, dark, and hard, evidently infiltrated with blood, as was proven by histological examination. This region measured 62 × 37 mm.

The valves of the heart appeared normal except for slight thickening of the posterior segment of the mitral. The aorta showed a few small patches of atheroma in the fatty condition; circumference of aorta, 68 mm. The left coronary artery was followed from its origin down the anterior surface of the ventricle. About 25 mm. from the base of the heart and the origin of its transverse branch it bifurcated, the seat of rupture being included between the bifurcating branches. Of the bifurcating branches the right exhibited several small calcareous plates, and one large plate 12 mm. in length. In contact with this plate lay a soft, reddish-white thrombus of the same length, completely filling the lumen of the artery.

A section made of the left coronary artery near its origin showed a part of the wall swollen and containing abundant nuclei, and in the middle of the patch an irregular excavation starting from the inner side, passing half way through the media. Dissection of the right coronary artery showed no such atheromatous condition as was found in the left.

Section of a portion of the ragged heart-muscle about the point of rupture showed an abundant infiltration of round cells between the columns of muscle-cells, or between the individual cells. The cross striæ were often indistinct and on some muscle-cells not visible at all. Many cells were slightly granular. A few irregular, dark, granular masses appeared to have resulted from the disintegration of muscle-cells. Most of the muscle-cells appeared very long and slender. Nuclei were discernible only over part of them.

A section made through the wall of the left ventricle,

but behind, and removed from the seat of rupture, showed the muscle-fibres to be of the normal average diameter. Individual cells were enlarged, others smaller than normal. The cross striations were distinct, longitudinal fibrillation well marked. An abundance of large, yellowish-brown granules filled the central parts of the muscle-cells about the nuclei, and extended some distance toward the poles of the cells. Many cells were observed having two nuclei; the space between the two nuclei being filled with pigment granules. Numerous elongated inter-muscular nuclei were seen. The amount of inter-muscular connective tissue was not unusual. The sub-pericardial fat was abundant, passing also into the muscular layers to a moderate extent along the course of the vessels. A few inconspicuous white flecks on the papillary muscles were seen, which proved to be due to fibrous connective tissue.

The progress of events in this heart is not hard to trace. There was atheroma of the left coronary artery, which was most marked in its right branch. A region of the wall of the left ventricle corresponding to the distribution of this vessel became on that account thin and atrophic. A thrombosis of the vessel occurred as a result of the roughened calcareous plate formed in the atheroma. There ensued in consequence of the thrombosis, anæmia, and in consequence of the anæmia, necrosis, in part of the thinned area mentioned. The blood in the ventricle under pressure dissected its way slowly through the necrotic and softened muscle. There was time for cell infiltration to occur. The blood dissected its way some distance in various directions from the ruptured point, infiltrating the muscle and even the sub-pericardial fat. It seems to have been some days making its way through the wall of the heart, finally bursting it, nearly opposite the internal point of rupture. The separation and laceration of the muscle-fibres was accompanied by severe pain.

The history of previous similar but less painful attacks is suggestive when we recall the presence of atheroma of the coronary. There seems to have been no interstitial myocarditis of importance; nor does the fatty infiltration of the heart that was present seem to have affected the progress of events. The specimen had been preserved a long time in alcohol when it reached my hands, which made the search for fatty metamorphosis unreliable; however, none was observed.

Laboratory of Pathology, University of Buffalo.

A French Schedule of Fees.—There is nothing like living under a socialistic and paternal government. In one of the departments of France, that of Yonne, the authorities have prescribed the following schedule of fees: "Extraction of a tooth, 1 franc; bleeding, 2 francs; opening an abscess, 1 franc; applying the speculum, 2 francs; hypodermic injection, including supply of solution, 1 franc; reduction of hernia by taxis, 2 francs; puncture of a hydrocele, 3 francs; operation for phimosis, 5 francs; reduction of phimosis, 3 francs; fracture of the lower jaw, 5 francs; fracture of the clavicle, 3 francs; of the arm, 5 francs; of the forearm, 5 francs; of the leg, 5 francs; of the fibula, 5 francs; of the femur, 5 francs; dislocation of the elbow, 5 francs; of the shoulder, 5 francs; of the ankle, 5 francs; of the knee, 5 francs; of the femur, 10 francs; tracheotomy, 30 francs; administration of chloroform, including supply of the chloroform, 5 francs; turning, 10 francs; removal of placenta, 10 francs; applying the actual cautery, 2 francs; amputation of a limb in a case of extreme urgency, 30 francs; application of the forceps, 10 francs."

We commend this schedule to some of our Kansas statesmen. Six dollars for amputating a limb seems very reasonable; and twenty cents for a hypodermic injection including the medicine would also make medication of this kind most popular.

Clinical Department.

PLACENTA RETAINED IN UTERO ONE YEAR —IMPREGNATION—FŒTAL SAC OVER OS INTERNUM—HEMORRHAGE AS IN PLACENTA PRÆVIA—OUTERBRIDGE'S IRRIGATING CERVICAL DIVULSOR.[1]

By A. ERNEST GALLANT, M.D.,

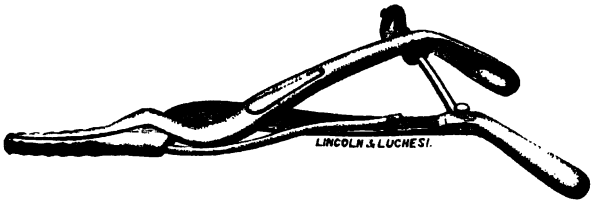
Gynecologist to the Northern Dispensary; Assistant Gynecologist Roosevelt Hospital, Out-Patient Department, etc.

My purpose in presenting the following history is threefold, viz.: 1. To relate a case of which comparatively few are on record. 2. How, in similar cases, can the presence of a fœtal sac be determined? 3. To present a new irrigating cervical divulsor devised by Dr. Paul Outerbridge, of this city.

L. T——, German, housewife, mother of two children, youngest three and a half years of age, was referred to the writer at the Northern Dispensary, on March 30, 1894. Her statements were as follows: She had been flowing for the past four or five weeks. Not much, but a little all the time. Miscarried at the fifth or sixth month in March, 1893. She flowed severely for two weeks after, then stopped, and menstruation recurred, at regular intervals of four weeks—three days; small quantity, natural color, up to and including January 18 to 21, 1894. Did not menstruate in February, but has had a constant "show" for the past four or five weeks.

Digital examination showed the cervix two inches in diameter, lacerated bilaterally, rather congested. Uterus forward, fundus extending two and one-half inches above the symphysis; body large, flabby; walls easily brought together, and tender on pressure. Sound entered easily; cavity five and one-quarter inches deep, roomy; fungosities and blood on the sound when withdrawn, followed by a little bloody serum. Breasts show no recent changes. Diagnosis: Subinvolution from retained placenta.

Curettage advised, and arranged to do so on the next day, but at that time found that, after an hour's "cramps" the patient had expelled a sac containing fœtus and fluid complete. Not feeling satisfied that this constituted all the contents of the uterus, on making a digital examination found the cervix filled with a considerable mass of degenerated placental tissue. In order to clean out the uterus the cervix was divulsed and thoroughly scraped, first with a dull, and then a sharp, curette; a large amount of loosely adherent placental tissue being brought away. Hot water, introtroduced through Outerbridge's irrigating divulsor



Outerbridge's Irrigating Cervical Divulsor.

(here presented), failing to excite contraction of the very flabby uterine wall, tincture of iodine sufficient to give a sherry color to the hot water was run into the cavity and at once caused a diminution in size to three and a half inches. Hot water was then used to wash out the tinctured solution. Seven and a half yards of one-inch wide, plain sterilized gauze was packed in the uterus, and the patient walked to bed. She suffered from cramps during the night. Forty-eight hours after the partially extruded gauze was removed, that in the uterine cavity being perfectly sweet. Hot water vaginal douches *ter die*. On the fourth day the uterus

[1] Read before the New York Academy of Medicine, Section on Obstetrics and Gynecology, February 28, 1895.

was firmly contracted—in good position. From the first the patient got out of bed to urinate and defecate.

All instruments, gauze, etc., were sterilized at the office, wrapped in a clean towel, and submerged in boiling water at the house. The genitals and vaginal canal were thoroughly washed with tincture of green soap, and irrigated with plain hot water previous to dilatation of the cervical canal. No antiseptics were used in any part of the operation. The surroundings were of the worst possible character—a basement in West Houston Street—and the bed linen extremely dirty, yet no symptom of infection appeared, due, as the writer believes, to the use of strictly clean instruments, etc.

The fœtus and sac were mounted by Dr. Henry Power, at the Histologic Laboratory of the College of Physicians and Surgeons, and the fœtus pronounced to be ten weeks old. Chorionic villi are present over the whole uterine surface, except at that portion which lay directly over the os internum, where the villi had atrophied, this being the cause and seat from which the hemorrhage proceeded. The placenta was not yet defined.

The congested condition of the cervix, ten weeks' amenorrhœa, and character of the flow pointed to the presence of a fœtal sac over or near the os internum. On the other hand, the history of miscarriage, the large size and flabby condition of the uterus, showing chronic subinvolution; the large, soft, wide, open os, with the extreme probability of placenta prævia, induced me to pass the sound, which entered with such ease as to allay my suspicions of the presence of a fœtal sac and to advise curettage. The sequel, to my mind, justifies the course pursued.

Outerbridge's irrigating cervical divulsor may be described as a combination of Wathen's cervical divulsor with the irrigating tube of Dudley's divulsing irrigator inserted into the right blade, and offers the following useful features, viz.:

1. That it cleans out the uterine cavity in a more thorough and efficient way than any double-current catheter can do.

2. All that is needed is an ordinary douche bag, the rubber-tubing of which easily fits over the end of the irrigating tube.

3. That with the blades held apart by the screw on the handles, the cervix cannot close down and obstruct the outflow.

4. The stream of fluid readily strikes the fundus, while, if it is deemed advantageous so to do, the blades can be alternately opened and closed.

5. The very fact that the cervix is put on the stretch, while the interior is irritated by the injection of boiled water, or other fluid, tends to act as a mechanical irritant and causes the body to contract.

6. No extra double-current catheter is needed, and that it cannot get out of order, be lost, or left behind, when most needed.

7. That the combination does not lessen the usefulness of Walthen's divulsor for ordinary purposes; and,

8. Being constructed entirely of forged steel it is much stronger than the ordinary instrument, and easily rendered aseptic by boiling.

9. Several sizes have been made, so that in conjunction with Hank's or Peesley's sounds all ordinary work can be done.

10. The cost is about the same as for the divulsor made without the irrigating tube.

10 West Thirty-sixth Street.

A Leper Colony was recently established at Villuisk, in eastern Siberia. At present the lepers are housed under tents, but huts are to be built for them in the spring, and the government has granted the settlement an annual subsidy of $3,500, which will enable provision to be made for one hundred lepers. At present there are about forty lepers in the colony.

A CASE OF INTERMITTENT HYDRONEPHROSIS.

By GEORGE H. GOODGER, M.D.,

DAVISBURG, MICH.

Intermittent hydronephrosis is a diseased condition which is so seldom reported and encountered that I desire to call attention to the following case. I am of the opinion, also, that it is more frequently seen than recognized, as the case herein detailed was under the observation and treatment of several physicians before I saw it, and none had given a proper diagnosis. They had called it enlarged and displaced spleen, impaction of the colon, enterolith, ovarian tumor, and movable kidney.

Mrs. F. M——, aged forty-five, mother of four children, youngest twelve years of age. Has a very pronounced dejena, which began when she was fourteen years of age. Complains of pain in left side and a tumor which "comes and goes." First noticed the lump three or four years ago, which has gradually grown in size at each successive appearance. The attacks have grown progressively more frequent, until now she has an attack every week, with extreme regularity. No history of injury at or shortly before the time of first appearance of the tumor, although she states that for a year or two prior to that time she suffered periodical pains in the left region of abdomen and in region of left kidney. Can foretell an appearance of the tumor, some hours before it becomes visible, by pain in back and region of left kidney, followed by the gradual appearance of the tumor in the left lumbar region. When tumor is forming urination is frequent, but only very small quantities are passed at a time, and the aggregate amount is much less than normal. Recollects that when tumor disappears unusually large quantities are voided. During attacks vomiting is severe and persistent, and constipation is present; when tumor disappears bowels become relaxed and much mucus is passed per rectum, but no lumps of hardened fæces. During intervals of attacks she is comparatively well and does her own housework.

August 10, 1894.—Examined tumor to-day and found it occupying left abdominal region, reaching from near the umbilicus to the crest of the ilium, and upward under the short ribs. It is not lobulated, but rounded in outline, firm in consistence, and dull on percussion. Pressure produces a peculiar sickening feeling and a desire to urinate. The tumor does not move on inspiration, but when ribs are drawn upward the edge of the hand can be inserted between them and the tumor. The tumor is plainly visible when lying on back or standing, and becomes more so when lying on right side, when it falls toward the mesial line, and causes a dragging sensation. Supporting it in this position gives relief. Urination last twenty-four hours has been frequent but scanty.

August 11th.—Examined the tumor again to-day and no change is apparent, except that it is larger. Instructed the attendants to measure quantity of urine passed till next visit and save some for analysis.

August 12th.—The tumor has disappeared. They had not measured the quantity of urine, but described it as large; from description I judged two quarts or more during the night and early forenoon. They reserved some, however, for analysis, and upon examination it was found as follows: Sp. gr., 1.012; no albumin; no sugar; pale color and normal odor; no sediment to speak of and no pus; reaction neutral. No microscopical examination was made.

I made the diagnosis of intermittent hydronephrosis, and ordered a pad made and worn over left lumbar region. At last accounts this was producing some amelioration in the way of lessening the frequency and also the duration and severity of the attacks. As the patient lives at a great distance I have not seen her since the pad was first worn and do not know, defi-

nitely, the amount of improvement which has taken place.

Now, as regards the diagnosis there are, according to Osler,[1] the following points in well-developed cases: "Pains; the development of a tumor in the flank; its disappearance, usually with an increase in the amount of urine." These symptoms should suffice to exclude any of the conditions for which this case was mistaken. The cause is often obscure, and in this case I was unable to determine positively the cause.

Ferrier and Baudoin[2] have collected eighty-three cases and found the usual cause to be movable kidney, which, owing to its displacement and loose attachment, allows the ureter to become twisted, thus occluding its lumen, and causing a damming up of the urinary secretion.

I think that the cause in my case was movable kidney, but if that were the only cause, I am unable to account for the regularity with which the attacks occur.

HERNIOTOMY, McBURNEY'S METHOD, IN JAPAN.

By CHARLES F. STOKES, M.D., U.S.N.,

LATE HOUSE SURGEON TO BELLEVUE AND GOUVERNEUR HOSPITALS, NEW YORK.

J. G——, porter, aged forty-five, native of Portugal, was admitted to the United States Naval Hospital, Yokohama, Japan, for operation, and gave the following history:

Seven years ago, while performing his duties as porter, he acquired a left scrotal hernia, which was reducible by taxis until three weeks before admission. Not being able to secure an efficient truss, the gut was allowed to remain unreduced, and was, in consequence, subjected to hard knocks and rough treatment, incident to his calling. On several occasions, after powerful efforts at lifting, or as a result of traumatism, he had acute pain in the part, which usually passed off within forty-eight hours. Four weeks before admission, he had an attack of influenza, with severe paroxysms of coughing. These considerably increased the size of the hernia, which became the seat of sharp, knife-like pains, as did also the abdomen, in the left inguinal region; at the same time he had distressing dyspnœa, hiccough, and could retain little or no food. The writer saw him in consultation with Dr. C. H. H. Hall, his physician, when taxis was tried, under ether anæsthesia, without success.

He was admitted to the hospital, November 1, 1893, when he stated that he had lost twenty-five pounds in four weeks. His expression was anxious; he had constant hiccough, and refused food. He was pallid and emaciated, and suffered from intense dyspnœa and constant pain in the left groin. The pain and dyspnœa were relieved only when he assumed the knee-chest position, in which position he would remain until forced to recline from sheer exhaustion. He had an incessant, dry, nervous cough, which added to the pain.

Careful chest examination elicited no abnormality in the lungs. The heart sounds were scarcely audible; a faint systolic murmur was heard in the region of the apex. The intestines were moderately distended with gas, and there was pronounced tenderness in the neighborhood of the internal abdominal ring. A large, oblique, irreducible, inguinal hernia occupied the scrotum on the left side. It gave the impression of being largely made up of omentum. Bowels responded to cathartics. Urine examination, negative; temperature, subnormal; pulse, weak and slightly accelerated; respirations ranged from 32 to 34 per minute. The dyspnœa, hiccough, and vomiting were thought to be reflex in character, while the local symptoms were due to some pathological condition of the contents of the sac.

[1] New York Medical Journal, July 28, 1894.
[2] Annual of Universal Medical Sciences of 1893.

Operation November 3, 1893. The writer was assisted by Surgeon F. Rogers, U. S. N., and Drs. C. H. H. Hall and W. Van der Heyden. Ether anæsthesia was used. Close attention was given to rendering the field of operation, hands, instruments, and dressing aseptic. A free incision along the line of the hernia, involving the superficial tissues, was made. The sac was freed at the external ring, the fibres of the upper wall of the canal were divided down to the internal ring, and from this point the sac, which was densely adherent, was dissected out. The dissection was most difficult and tedious, as the cord was firmly attached to it. When freed, the sac was opened on its anterior aspect by a linear incision, and was found to contain eighteen inches of the large intestine. Firm adhesions bound the intestine to the sac and to the parietal peritoneum adjacent to the internal ring. These were broken down with the fingers, and divided with scissors. Beyond the adhesions, there was nothing to account for the profound reflex symptoms noted above. The internal ring readily admitted the ends of the thumb and four fingers. The gut was reduced, and the sac tied off with a silk ligature, well within the internal ring, to avoid dimpling, and cut away three-fourths of an inch below the ligature. The skin edges above were sutured to the edges of the divided canal, on their respective sides, and below were brought together with catgut sutures, after introducing a rubber drainage-tube. The unclosed portion of the wound above was snugly packed, well down to the peritoneum, with iodoformized gauze; over this, covering the entire wound, aseptic gauze and absorbent cotton were applied, supported by a snug spica bandage. The patient was under ether somewhat over three hours. He reacted badly, and considerable stimulation was necessary.

November 8th, five days after the operation, the dressings were removed. The wound was aseptic. Primary union had taken place where the skin edges were approximated. The drainage-tube was removed. Balsam of Peru gauze was substituted for the iodoformized, as it was thought the patient had absorbed a toxic amount of iodoform; otherwise, the dressing was the same as applied originally. The highest temperature recorded was 99.9° F., the day after the operation. Dressings were also made on November 14th, 20th, 24th, 28th, and December 5th, when the wound, which had remained aseptic throughout, was solidly healed, and all dressings were discontinued.

The immediate effect of the operation was most gratifying. The cough, dyspnœa, hiccough, and vomiting ceased, while locally no pain was experienced. Food, in small amounts, was relished. It was with difficulty that the patient, who was impetuous and intractable, was kept in bed during the healing of the wound.

Toward the end of the fourth week, he complained of pain in his left side, had a moderate rise of temperature, cough, with blood-tinged sputum, and albuminous urine. A patch of consolidation was found in the lower lobe of the left lung, which was at first thought to be a pneumonic process, but later unmistakable signs of acute tuberculosis developed. The room used by the patient had been recently plastered and painted, and he was the first person to occupy it thereafter. He was up and about after December 5th, when his lung lesion would permit, and wore no truss or other support during the remainder of his stay in the hospital. The new cicatrix was put to the test by an almost incessant cough. At no time was there a vestige of a recurrence of the hernia. He left the hospital, January 13, 1894, to seek treatment for his pulmonary trouble elsewhere. He died four days afterward, and although an autopsy was earnestly desired, it could not be obtained.

The case is instructive, in so far as it shows that a very young cicatrix may be trusted to guard an excep-

tionally large ring, if the operation be properly performed. The secret of success, so clearly pointed out by McBurney, lies in avoiding dimpling of the peritoneum after ligating the sac, and in insuring granulation from the peritoneum out. The pronounced reflex symptoms recorded, and their immediate cessation after the gut was freed and returned to the abdomen, are of exceptional interest. No signs of strangulation or obstruction were observed.

So far as can be ascertained, this is the first time McBurney's method has been practised in progressive Japan.

Progress of Medical Science.

The Diagnosis of Diabetes and Glycosuria by Examination of the Blood.—Dr. Bremer describes a modification of Ehrlich's method of staining cover-glass preparations of blood with eosin and methyl blue. By this method of staining, in normal blood the red blood-corpuscles appear brownish red, but the color varies from a clear reddish brown to a deep chestnut brown (*The British Medical Journal*). The nuclei of the leucocytes stain blue. Bremer found that in diabetes and glycosuria the red blood-corpuscles either remained completely unstained, or they were simply tinted light yellow or greenish yellow. Only occasionally a small peripheral zone of the red corpuscle was tinged slightly red. Other minor changes were found in the leucocytes. With acid fuchsine and other so-called acid dyes, the red corpuscles of diabetic blood stained just in the same manner as those of normal blood. It was only eosin which did not stain them. In order to determine whether this loss of staining affinity for eosin was due to the abnormal amount of sugar in diabetic blood, Bremer treated cover-glass preparations of normal blood with a solution of sugar. But he found that the red corpuscles still stained with eosin, as in normal blood. If, however, a cover-glass preparation of non-diabetic blood was floated for twenty-five to thirty minutes in a diabetic urine, the red corpuscles failed to stain brownish red with eosin; they remained unstained or were only slightly tinted yellow or greenish yellow, as in diabetic blood. But the red corpuscles in a cover-glass preparation of non-diabetic blood, treated with urine free from sugar, stained well with eosin. In glycosuria produced artificially by the administration of phloroglucin for three days, the red corpuscles failed to stain with eosin, as in diabetes.

Is Iodoform an Antiseptic?—Most practical surgeons would unhesitatingly say "Yes" to this question. Heyn and Roosing showed, however, in 1887, that the presence of iodoform on gelatine plates did not impede the growth of colonies of microbes, such as the staphylococcus aureus, the pneumococcus, etc. They likewise stated that a plug of iodoform gauze introduced into the vagina of a healthy woman abounded, on its extraction, with bacteria. M. Stchegoleff has recently reinvestigated this question in the laboratory of Professor Strauss, of Paris (*The Lancet*). He found that beef-peptone-gelatine bouillon, which is an excellent culture medium for Koch's tubercle bacilli, loses that property when it has incorporated with it five per cent. of iodoform, the tubercle bacilli sown in it dying in forty-eight hours. When an emulsion of virulent culture of tubercle bacillus and ten per cent. of iodoform was employed to inoculate guinea-pigs, the animals survived longer than those that had received non-iodoformed inoculations. Thus iodoform kills the bacilli in the cultures, but only attenuates their virulence when introduced into the system at the same time as the tubercle bacillus. The action of iodoform on the staphylococcus is just the reverse of what it is in the case of the tubercle bacillus, for that micro-organism (the staphylococcus) flourishes in an iodoformed culture medium, while the inoculation of the staphylococcus previously submitted to the action of the drug is inoffensive. From 1½ c.c. to 2 c.c. of iodoformed culture could be injected with impunity, only a trifling local reaction being produced, whereas other animals inoculated with the staphylococcus grown in ordinary media were affected with abscesses or died in a few days from septicæmia. When, however, the iodoform is mixed with the staphylococcus at the moment of inoculation a small local abscess results, showing that there is only attenuation and not suppression of the virulence. M. Stchegoleff thought that perhaps the iodoform, while not attacking directly the staphylococcus, acts, nevertheless, on the toxine secreted by the microbe. To determine this point he prepared two kinds of culture—one normal and one mixed with ten per cent. of iodoform. A week later he filtered them in order to deprive them of living organisms, and then inoculated rabbits with them. Those inoculated with non-iodoformed toxines died in a few hours, whereas the animals inoculated with the iodoformed toxines remained well. M. Stchegoleff opines that under the influence of iodoform the toxines of the staphylococcus are converted into non-poisonous iodized compounds. We can now understand how iodoform applied to a sore prevents suppuration and infection without killing the pyogenic organisms. Löffler's diphtheria bacillus is affected by iodoform in much the same way as the staphylococcus. It grows well in an iodoformed culture medium, but its virulence is diminished. The diphtheria toxines are weakened, and even altogether neutralized, by iodoform, provided the drug is present in adequate proportion and for a sufficient length of time.

Physical Signs of Acute Pericarditis.—According to Dr. Josserand the friction sound in pericarditis is often in arrear of the anatomical evolution of the disease, not being present until a longer or shorter period has elapsed. The following is, in his opinion, an early sign of real value. When, in the course of an acute articular rheumatism, comparative auscultation is made at the cardiac base in the aortic and pulmonary areas, it sometimes happens that the second sound in the pulmonary area is found to be more intense, louder, and more metallic; the opposite is the case in chronic aortitis, in which the sound is more marked on the right side of the sternum than on the left. Sometimes even this difference is appreciable by the hand, which perceives an exaggeration of the diastolic closure shock of the pulmonary sigmoid valves. The existence of this sign should cause one to search carefully for a friction sound, which will then often be considered when a superficial auscultation would have allowed it to escape notice; if not present, its more or less early appearance may be predicted. This noisiness of the second sound is early and usually transitory; it precedes the friction sound by from one to three days, and with few exceptions, is replaced by it. It is a sign proper to the initial congestive period, like the fine crepitation of pneumonia. Its anatomical explanation is, Josserand thinks, that the heart muscle at the base of the pulmonary artery is rendered congested, turgescent, more dense, and perhaps covered with fibrinous lymph, and thus amplifies to the ear the neighboring sigmoid sounds. This sign is important, first, in diagnosis, to enable one to decide between a friction sound and an anæmic murmur or extracardiac sound, as it permits one to decide in favor of the friction sound; secondly, as a sign that the heart is affected, with localization and intensity difficult to state precisely. It indicates the necessity for early revulsive medication.—*La Semaine Médicale.*

Is Simple Stricture of the Rectum in Reality Syphilitic?—The Paris correspondent of *The Lancet* writes that M. Verneuil had recently under treatment a man, aged sixty-eight years, pale, thin, and cachectic, who

complained of a swelling of the anal margin which had, it appears, reappeared for the fourth time. M. Verneuil, imagining he had only to deal with a simple subcutaneous abscess, opened it by means of the thermo-cautery. All seemed to go well both locally and generally with the patient until the twentieth day, when the healing process was arrested, and a thin serous discharge appeared. This led M. Verneuil to make a second wrong diagnosis (urinary abscess), and a urethral stricture from which the man suffered was treated by progressive dilatation. The thin discharge continued, however, and sharp pains were complained of in the neighborhood of the wound, the edges of which became prominent. Defecation was difficult, the abdomen became tympanitic, and appetite and strength disappeared. Further examination revealed the presence of an ano-rectal gumma with stricture of the rectum, the man confessing to having had a penile chancre with the usual secondary sequelæ in 1888. Specific treatment, without any further surgical proceedings, brought about a rapid cure, the gumma soon being absorbed. M. Fournier regards this case as a confirmation of his views regarding the nature of simple or fibrous rectal stricture —viz., that it is always syphilitic. This idea has been contested on the ground of the usual inefficacy in these cases of specific treatment. According to M. Fournier failure is due to the treatment being applied too late, when sclerosis has done its work. He calls attention to these cases where, with a rectal stricture, there exist ano-rectal and ano-perineal lesions, the gummatous nature of which can be recognized *de visu*, especially when these lesions are ulcerated. In such cases regular anal fistulæ may develop (syphilitic fistulæ, described by the late Professor Trélat). M. Le Dentu, although he has only met with one success from the specific treatment of stricture of the rectum, concurs with M. Fournier's views as to its (so-called simple stricture) syphilitic origin.

The Treatment of Cancer of the Stomach by Sodium Chlorate and Aristol.—Dr. Huchard has employed sodium chlorate in daily amounts of from 150 to 180 grains dissolved in from 5 to 7 ounces of water in divided doses, so that a continuous topical action of the salt may be maintained, not only upon the tumor but also upon the gastric mucous membrane. If larger doses are used symptoms of gastric irritation supervene, and the remedy can no longer be borne. To definitely state if this be a curative agent, many years of observation are needed ; it can, however, be stated that sodium chlorate in large doses has a very favorable action upon functional disturbances of the stomach. It increases the appetite, diminishes pain, makes the vomiting of food to disappear, and causes the hæmatemesis to cease. Aristol has been found to be inferior to sodium chlorate, but is useful, if the stage of ulceration has been reached, because it appears to possess a local action in the digestive canal when given in pill-form, in doses of three or four, of one and one-half grain each, daily. These remedies should be used, at least, because they relieve the functional disturbances.—*Journal des Practiciens.*

The Treatment of Stridulous Laryngitis in Children.—M. Huchard remarks that the opinion that stridulous laryngitis in children is always a benign disease should not be credited too much. Trousseau cited cases in which tracheotomy had to be performed, and M. Huchard himself has observed the case of a child in whom cyanosis and asphyxia were so intense that tracheotomy had to be done. In other cases coming under his observation surgical intervention had not been resorted to, although the intensity of the symptoms had been remarkable, the laryngeal spasms occurring nearly without remission for three consecutive days and nights ; the voice had been nearly inaudible, and dyspnœa and cyanosis had been considerable. M. Cadet de Gassicourt has also reported similar cases. Finally, in a recent thesis, M. Touchard has made a *résumé* of some interesting facts and divided them as follows : 1. Cases in which tracheotomy had been performed, with recovery. 2. Cases in which death had resulted because tracheotomy had not been performed. 3. Very serious cases in which surgical intervention had not been necessary. 4. Benign cases where *tirage* had existed, but with less intensity of the symptoms. M. Huchard does not discuss the question of whether or not this affection is the result of transitory tumefactions of the glottic mucous membrane, if it is due to mechanical stenosis caused by the accumulation of mucus near the glottis, or if this laryngitis is first localized in the subglottic portion of the larynx. It is known, he says, that stridulous laryngitis is composed of two elements, inflammation and spasm of the larynx, and the danger in these cases is the spasm and not the inflammation, which may be slight or intense without increasing the gravity of the case. Before surgical intervention is resorted to, however, early medical treatment should be instituted. M. Huchard does not hesitate to prescribe sixty or even seventy-five grains of potassium bromide a day for a child four and a half years of age given in large doses ; it is important, however, that these doses should be given in the beginning, without fear of toxic accidents, in order to insure prompt and sure sedation of the glottic reflexes. This treatment must be continued for from five to eight days at the least, for clinical experience has shown that the attacks of false croup may be repeated for several nights. Such is the necessary medical treatment of stridulous laryngitis, whether benign or serious. With regard to surgical intervention, one must resort to the last extremity when all medical means have been exhausted, and when there is danger of asphyxia. The two methods of surgical treatment are tracheotomy and intubation of the larynx. It must not be forgotten, says M. Huchard, that during measles very serious forms of acute laryngitis, which simulate croup, may be observed at three periods : in the beginning, when the eruption appears, and during convalescence.—*New York Medical Journal.*

Convulsions of Childhood.—Dr. Chenbach, of Bucharest, has recently made a clinical and experimental study upon this common complication of early life. Following the earliest experiments of Feltz and Ritter, and the more recent ones of Bouchard, the author has carried out a series of experimental studies by injecting the urine of epileptic subjects into the circulation of the rabbit. The conclusions which he has arrived at from this portion of the work are as follows : 1. The urine of convulsive affections, filtered and introduced into the circulation of rabbits, produces clonic and tonic convulsive manifestations. 2. These convulsions appear more rapidly, and are more violent than those produced by normal urine. 3. Prolonged boiling diminishes, in part, the toxicity of the urine, and modifies the toxines contained in it. 4. The presence of convulsivant substances in the urine of convulsive affections appears to be proven. 5. Bromide of potassium employed in the treatment of such affections, being introduced into animals with the urine containing it, diminishes, or even prevents, such convulsions. 6. In convulsive affections of children the urine shows a more energetic and prompt action than that of adults under the same conditions. In the clinical study especial attention is paid to the convulsions appearing in the course of the infectious diseases. His conclusions are as follows : 1. It is to be admitted as probably the fact that convulsivant substances are found in the organism and produce auto-intoxication. 2. Such auto-intoxications give the most satisfactory explanation of the production of convulsive phenomena in children during or following infectious diseases. 3. Alterations in the liver, by diminishing its antitoxic activity, favor auto-intoxication, and, consequently, the appearance of convulsions.—*Revue mensuelle des Maladies de l'Enfance.*

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IRON AND SUGGESTIVE THERAPEUTICS.

IT would seem as though the last word had been said about iron (*ferrum*) from spectroscope and test-tube to drug-store and bedside. But this was the subject selected for discussion at the recent meeting of the German Congress of Internal Medicine, and, after looking over the papers read, we confess that the topic was not unwisely chosen.

Professor Bunge, of Basel, who opened the debate, in particular, stated some facts which ought to be known by all practitioners.

The human body, he said, contains a considerable amount of iron, this amount varying from thirty to forty-five grains (2 to 2½ gm.). This iron is chiefly found in the hæmoglobin of the blood, in the form of proteid compound. Physicians, he says, generally suppose that the iron which they prescribe medicinally is taken up and applied to the building up of this compound. But this, says Bunge, is a mistake, for recent experiments make it extremely probable that the inorganic iron preparations are not at all absorbed. Thus, Hamburger, in experiments upon animals, was able to collect from the fæces all the iron administered by the mouth. The same results were obtained by Schmiedeberg and his pupil, A. Marfori. There is practically no inorganic iron in the urine. If one administers iron, this barely perceptible trace in the urine is not increased. If iron is not excreted by the urine, the only way in which it can leave the economy is by the intestines, and experiments show that as a matter of fact the body-iron is lost in this way. Bidder and Schmidt established this fact by experiments upon starved cats. They found ten times as much iron in the fæces as in the urine. The same results have been reached by experiments on fasting men. Further experiments show that iron is excreted, not by the stomach or through the bile, but by the intestines.

Voit, Marfori, and Hamburger have all shown that inorganic iron compounds are not absorbed in an appreciable amount by the alimentary tract. Bunge comes to the conclusion that iron is only taken up and used to make hæmoglobin in some peculiar organic form. In order to discover what this form was, Bunge made chemical experiments with the yolks of eggs. This substance must contain some iron preparation which is capable of building up hæmoglobin, since, as the chick grows, blood is manufactured out of the nutrient substance of the yolk. He discovered this substance to be a nucleo-albumin, and named it hæmatogen because it is the substance (*Vorstufe*) out of which hæmoglobin is built.

Bunge assumes that our daily food contains this hæmatogenous substance, and he is led to the conclusion that iron is best taken into the economy, and perhaps only so taken, when given in its natural combination in the food. In examining milk for the purpose of finding its hæmatogen he was surprised at the very slight amount of iron in this so-called perfect food. The amount of iron in milk is six times less than that of the tissues of new-born animals. How, he asks, are we to explain the fact that new-born animals are supplied with such iron-poor food? The explanation is that the new-born contain an excess of iron stored up in their tissues, and this lasts them until they are weaned. In rabbits, for example, he found eighteen grammes of iron at birth and only one-sixth this amount three weeks later. In babies he assumes that the same relations exist, and he calls attention to the fact that since milk is a food so poor in iron, it should not be given for a protracted period either to babies or adults. The clinical fact that milk is bad as an exclusive diet in anæmia was confirmed by one of the speakers in the discussion which followed.

Bunge's subsequent remarks were confined to a consideration of the absorbability and assimilability of the officinal preparations of iron. Bunge is inclined strongly to disbelieve in the real value of these preparations. He states that even iron which is absorbed is not necessarily assimilated. On the other hand, he says that in about ten days the ordinary food will convey to the organism iron equal to one-third that in the blood. In other words, the food contains always enough iron to supply the needs even of the very anæmic.

The apparent utility of iron in therapeutics, he thinks, is largely a matter of suggestion.

THE STATE INSANE ASYLUMS AND THE STATE POLITICAL MACHINES.

THE report of the sub-committee of the joint legislative committee which has been investigating the State Commission in Lunacy has presented its report.

This report commends the work of the State Lunacy Commission and urges an increase of its powers, with a corresponding decrease of the powers of the local managing boards. The report says:

"The functions of the local managers have gradually diminished, and their usefulness, except in a visitorial sense, may well be questioned. If retained at all, they should be of uniform number, not exceeding five; should reside in the immediate vicinity of the hospital, be appointed by the Supreme Court of the district, and be debarred from holding any legislative or State executive offices. It is a further impeachment of the present method in vogue for procuring special appropriations that, despite the large sums annually voted, the necessary repairs and improvements have not kept pace with the outlay."

Of course this means practically that the entire man-

agement of all our State Asylums shall be placed in the hands of three men with an office at Albany. These men will have the power of appointments, of purchase of supplies, awarding contracts, and all the immense patronage connected with the care of over fifteen thousand insane. It is easy to see of what value this scheme might become to the dominant party and its machine politicians. We cannot believe that such a scandalous recommendation will receive serious attention.

DOCTORS AND MANAGING BOARDS.

THE Mayor of this city failed to appoint a medical man on the Board of Commissioners of Charities and Correction. We have no fault to find, though it is regrettable that some physician could not be found to sit on a Board which has to deal so much and so entirely with the sick. We presume one reason is that a medical man of the experience and character needed for so important a position cannot easily be got for the sum of $5,000 a year.

While the Mayor's action is a disappointment it is not half so keen as that which the profession will feel if the bill to allow a physician to be President of the Board of Health fails to become a law. We trust that this measure will be vigorously urged by the medical profession throughout the State. The present law is an insult to the intelligence of practitioners of medicine.

FOUR YEARS' MEDICAL COURSE.

WE have always advocated the highest and most rational methods of medical instruction, but we have not considered it necessary or possible to lay down hard-and-fast rules as to what these methods shall be. There is no doubt that four years is not too long a time to study medicine, yet there are many cases in which four years of college study are not needed. If a young man has spent four years in getting a degree of A.B. or B.S., if he then studies medicine three years, and at the end of that time enters a hospital for a year and a half he should be as well equipped to practise medicine as educational institutions can make him. There should, therefore, in our opinion, be concessions made to those medical students who have at the end of three years become hospital internes. This degree may be withheld, perhaps, or given conditionally, but three years is long enough for intelligent, well-educated men to learn the didactics of our art. To force upon them another year in addition to the hospital course may often prove an unnecessary hardship.

There is developing a kind of four-year-course fanaticism among some of those who are in the propaganda for higher education. A previous college training and a year and a half in a hospital ought to entitle a man to get off with only three years of lecturing and reciting.

Hydrotherapy for the Poor.—The Riverside Association of this city has established free baths for the use of the poor. The new institution contains a complete equipment for the use of hydrotherapy, under the supervision of Dr. S. Baruch.

News of the Week.

The American Academy of Medicine held its annual meeting, under the presidency of Dr. J. McFadden Gaston, of Atlanta, in Baltimore, on May 4th and 6th. Dr. J. E. Valk, of Philadelphia, read a paper on the "Limits of a Physician's Duty to the Dependent Classes." He said that the physician should remember that he is a man and a citizen, as well as a pathologist and therapeutist. He held that physicians should not be expected to give their services to public institutions, for they were already taxed for their support, and if they served free they made a double contribution. He also advocated a reform of the dispensary abuse, which he thought might be brought about by the very growth of the evil, the enormity of which would eventually lead to its destruction by an awakened public and professional sentiment. Dr. W. L. Estes, of South Bethlehem, Pa., presented a communication on "Hospital Management," in which he advanced the very sound doctrine that of the two boards connected with a hospital the medical board should be higher and more authoritative in its action than the lay board of managers. The superintendent, who is a connecting link in this dual management, is usually a layman, but he should be a physician. Dr. W. L. Pyle, of Washington, presented a "Plan for an Emergency Hospital." Such a hospital, he said, should be easily accessible, on a street of some width, in convenient communication with a police station. There should be a sheltered driveway for the ambulance, communicating by large doors with a large, airy room, kept constantly in readiness for any operative procedure. An emergency ward should adjoin this room, and some padded wards for alcoholics, the acutely insane, etc., should also be found on this floor. The administration should belong to the municipal authorities, having an advisory board of physicians and surgeons. Dr. Emma B. Culbertson, of Boston, read a paper on the reform of the dispensary abuse, giving an outline of the plan followed by the New England Hospital for Women, in which those applying for relief were investigated by the "United Charities." Dr. George M. Gould presented a communication on "Hospitalism," in which he defined the dispensary disease, or hospitalism, as "a contagious, epidemic, ingravescent neurosis of civilization, limited as regards time to the present, and as regards geographic distribution to the urban population. It attacks three considerable classes—the professional philanthropist, the commercial physician, and the social sponge." He detailed the symptoms of the disease as manifested in the endowing class, the patient, and the physician. There is no specific remedy for the affection and we must employ every means at our hand that may promise a slight degree of relief. The prognosis is very grave, and the cure of the disease cannot be looked for in our day. Dr. Bayard Holmes, of Chicago, also read a paper on medical charities, in which he said that the endowment of charities is inexpedient. The medical profession is in great measure to blame for what it has to endure from the lay management of charitable institutions. Dr. Woods Hutchinson, of Des Moines, read

a paper on the "Economics of the Social Evil." He thought the youth of the land should be properly taught the dangers of fornication with prostitutes, and said that if then they chose to incur the dangers it was at their own risk, and society would be well rid of them when they were exterminated by the diseases which they brought upon themselves.

The first paper on Monday, May 6th, was by Dr. Delancey Rochester, of Buffalo, upon the "Proper Teaching of Physiology in Public Schools as a Means of Preventing Intemperance and Disease." The speaker advocated the teaching in schools of the physiology of the sexual organs as well as that of digestion. This could be done without going into unnecessary detail. Children will learn such things for themselves, and it is better that they should be taught them seriously. The evils of the abuse of alcohol and tobacco should also be pointed out. The annual address of the President was read by Dr. J. McFadden Gaston, of Atlanta, who took for his title "Rudimentary Preparation Compared with Higher Education for Specialties in Medicine and Surgery." In the evolution of specialism, he said, it may be anticipated that little or nothing will be left for the occupation of the general practitioner, and it becomes a grave question as to the final outgrowth of this division of labor to such an extreme degree. He held that the *rôle* of the general practitioner is essential for the advancement of medicine and surgery. It will prove disastrous to the best interests of the medical profession if all practical work is parcelled out into these subdivisions. The curriculum of instruction in medical schools should be maintained so as to qualify their graduates for entering upon general practice in medicine and surgery. There should not be any provision in the graded courses of three or four years for turning out specialists, but the preparation for a specialty should not begin until after graduation and a certain exercise in general practice. Dr. E. F. Wilson, of Columbus, O., read a paper entitled "Is the Recitation Method of Teaching a Success in Medical Colleges?" He answered this question in the affirmative, claiming as advantages for the recitation method: 1. The students do more and better work. 2. By using recent text-books the students receive the latest and best teaching of the master-minds of the profession. 3. There is no break in the method of study in the change from the college to the medical school. 4. A better preliminary education will be required. 5. It will, in time, cause the medical course to be regarded as a post-graduate course. 6. It enables the student to ask questions and thus have obscure points made clear. Papers were also read by Dr. Millard, of St. Paul, on "A Plea for Efficient Medical Legislation;" by Dr. Peterson, of Grand Rapids, on "The Need of more Medical Reference Libraries, and the Way in which They can be Established;" and by Dr. Grosvenor, of Buffalo, on "What shall we Do with our Alcoholic Inebriate?" The election of officers for the ensuing year resulted in the choice of the following: *President*, Henry M. Hurd, M.D., Superintendent of Johns Hopkins Hospital, Baltimore; *Vice-Presidents*, Woods Hutchison, M.D., of Des Moines, Ia.; John B. Roberts, M.D., of Philadelphia; Emma B. Culbertson, M.D., of Boston; W. F. Southard, M.D., of San Francisco. *Secretary and Treasurer*, Charles McIntire, M.D., of Easton, Pa. *Assistant-Secretary*, Edgar Moore Green, M.D., of Easton, Pa.

Preparation and Sale of Therapeutic Serums in France.—The following is the text of the law in France relating to the preparation, sale, and distribution of therapeutic serums and other analogous products, promulgated on April 25th last: Article 1. Attenuated virus, therapeutic serums, modified toxins, and analogous products that may be used for the prophylaxy or therapy of contagious diseases, and injectable substances of organic origin not defined chemically, that are applied to the treatment of temporary or chronic affections, shall not be distributed gratuitously or otherwise unless their manufacture or place of origin shall have been the object of an authorization of the Government given with the sanction of the Consulting Committee of Hygiene of France and of the Academy of Medicine. Such authorization shall be temporary and revocable. The said products shall be submitted to the inspection of a commission appointed by a competent minister. Art. 2. These products shall be delivered to the public by pharmacists upon medical prescription. Each bottle or receptacle shall bear the mark of its place of origin and the date of its manufacture. In urgent cases physicians are authorized to furnish their patients with the said products. When the said products are destined to be delivered gratuitously to the poor the vials containing these products shall bear, stamped upon the glass, the words, "Public Assistance, Free." They may then be deposited, under the control of a physician, at such establishments as may be authorized by the administration to procure these products direct. The foregoing provisions shall not apply to Jennerian vaccine, either human or animal. Art. 3. The sale and distribution of the substances mentioned in Art. 1 shall be regulated by and come within the provisions of Art. 423 of the Penal Code and of the law of March 27, 1871. Any fraud as to the nature of the said substances, knowing them to be falsified or adulterated, or any fraud or attempt at fraud in regard to the quality of the article delivered, will be punishable in accordance with the provisions of Art. 423 of the Penal Code and of the law of March 27, 1871. Art. 4. Any infraction of the present law will be punished with a fine of from 16 to 1,000 francs.

Preliminary Training for Students of Medicine.—Governor Morton has approved the bill of Assemblyman Horton providing that candidates to study medicine must have completed a full instead of three years' academic or high-school course to obviate the necessity of taking regents' examinations.

The Medical Society of Pennsylvania will hold its forty-fifth annual meeting at Chambersburg, Pa., May 21st to 24th.

Hypnotism.—The author of the article on hypnotism in our recent issue should be Chalmer Prentice instead of Charles Prentice.

The Microscopical Society of Washington, D. C., gave its annual reception on the evening of May 13th at the National Rifles Armory. Many interesting exhibits were made by the different members.

The Case of Medical Inspector Edward Kershner, U. S. Navy, to which allusion has been made in a previous issue of the MEDICAL RECORD, is before a court-martial convened at the Brooklyn Navy-Yard. It will be recollected that Inspector Kershner declined to visit a sick man on a neighboring vessel lying off shore, as he did not wish to jeopardize his own crew while help could be easily obtained from shore. For this he was charged with inhumanity in disobeying the orders of his superior officer, and in subsequently reporting the case to the newspapers. To these charges he pleads not guilty. An important question to be settled will doubtless bear upon the fact whether or not a commander has jurisdiction outside of his ship and can order any officer to extra duty accordingly, or place the safety of a crew against that of a single individual.

Typhoid in Stamford and New Milford, Conn.—Dr. Frederick Schavoir, the new health officer of Stamford, reports that of 337 cases of typhoid occurring in that town, 307 have been traced to the milk-supply, already referred to in the MEDICAL RECORD. The epidemic is supposed to have reached its height. A committee has been appointed to inspect the sewers and make the necessary repairs and alterations. The daily papers contain accounts of a similar epidemic of typhoid fever which is prevailing in New Milford. The disease is said to have been distributed by milk obtained from a certain farm in the neighborhood. Up to May 9th, 23 cases had been reported.

Bellevue Hospital Medical College.—At the annual meeting of the Faculty of Bellevue Hospital Medical College the following changes were made: The title of the Chair of Dr. Joseph D. Bryant was changed so as to be, Professor of Anatomy and Operative and Clinical Surgery. Dr. George D. Stewart resigned as one of the Demonstrators of Anatomy and was appointed Director Adjunct in Anatomy, under the direction of Professor Bryant. Dr. George D. Stewart was Nominated Assistant Visiting Surgeon to Bellevue Hospital. Dr. H. M. Silver resigned as Demonstrator of Anatomy. Dr. John F. Erdmann was appointed Professor of Practical Anatomy and put in charge of the dissecting-room. Dr. Winfield Ayres, Dr. William C. Lusk and Dr. John J. Rothwell were appointed Assistant Demonstrators of Anatomy. Reginald H. Sayre was appointed Lecturer Adjunct in Orthopedic Surgery. Dr. Austin Flint, Jr., was elected Professor of Obstetrics. Dr. William H. Park was appointed Instructor in Contagious Diseases.

Dr. A. E. Davis Gets a Verdict Against a Newspaper for Malicious Slander.—Dr. A. E. Davis, of this city, as a result of a suit for libel against the *Sun* Printing Association obtained a verdict in his favor for $2,500. The action was based on two articles published in the *Evening Sun* on February 11 and 13, 1893, one of them headed "Scandals Galore," over several other head-lines of equally startling import. The article, which was more than a column long, gave a flippant account of trouble in a boarding-house at No. 463 Fifth Avenue, which was apparently started by the prying and gossiping of an old woman. The plaintiff charged that the article made false insinuations as to his conduct. The matter first acquired publicity through a charge of assault made in a police court against Dr. Davis by a Mrs. Ashley, which was dismissed. We congratulate the plaintiff on his vindication. The moral character of a physician is always very dear to him and should be protected at all hazards.

Obituary Notes.—Dr. CHARLES SUTHERLAND, Surgeon-General U. S. Army, died in Washington on May 11th, aged sixty-six. He was brevetted colonel in March, 1865, for meritorious services during the Civil War. He then served in Washington, New York, and San Francisco until 1884, when he became Medical Director of the Atlantic. He was appointed Surgeon-General in December, 1890, and served in that capacity until retired.—DR. J. C. PORTEOUS, one of the most prominent physicians and surgeons of Poughkeepsie, died suddenly at midnight on Saturday, May 11th, of valvular disease of the heart. He was surgeon of the One Hundred and Eighteenth New] York Volunteers in the late war, and on account of his courageous service in his line of duty was mentioned in General Orders by General Butler. He was fifty-six years of age.

The American Neurological Association will hold its twenty-first annual meeting at Boston, on June 5, 6, and 7, 1895, at the hall of the Boston Society of Natural History.

The Canadian Medical Association will hold its annual meeting at Kingston, August 28, 29, and 30, 1895. Dr. James Stewart, of Montreal, will deliver the address in medicine, and Mr. J. H. Cameron, of Toronto, the address in surgery. It is intended to have a dermatological clinic, at which several interesting cases will be presented, and these will be discussed by prominent dermatologists. There will probably be other clinics as well. It is hoped that the first President of the Association, Sir Charles Tupper, will be present at this meeting.

Dr. F. S. Mandlebaum has been appointed pathologist to the Mount Sinai Hospital, in this city.

The Kansas Medical Society held its twenty-ninth annual meeting in Topeka on May 16th and 17th. The President of the Society was Dr. W. R. Priest, of Concordia; Vice-presidents, Drs. Gray, of Kansas City, and Tyler, of Clifton; Secretaries, Drs. Purdue, of Wichita, and Wall, of Topeka; Treasurer, Dr. Reynolds, of Horton.

The American Pediatric Society will hold its seventh annual meeting at the Virginia Hot Springs, May 27, 28, and 29, 1895, under the presidency of Dr. F. Forchheimer, of Cincinnati. A number of interesting papers are promised.

The State as a Purchaser of Secret Remedies.—A bill has been introduced into the Illinois Legislature providing for the free treatment of habitual drunkards. It provides that an habitual drunkard or any one of his relatives, when not able to pay for treatment, may petition the court for an order to have him treated at the county expense, the patient giving his written consent, and having his petition verified by three tax-payers. No special cure or institute is designated, that being left to the discretion of the court, but for whose bene-

fit the bill is intended is evident from the fact that the Keeley-cure people are the active ones in its support. Similar bills are pending in the legislatures of a number of other States.

Colleges with Four-Year Courses.—Several correspondents write to say that the Jefferson Medical College of Philadelphia was omitted from the list of four-year colleges published in our issue of April 27th. Another correspondent writes that the Medical Department of the Oregon State University, and that of the Willamette University, both in Portland, will require a four-year course, beginning with the coming fall session. This is in accordance with the resolution of the College Association, and nearly all the respectable schools in the country will do the same.

Cholera among Pilgrims.—Cholera is officially declared epidemic at Mecca, and in the villages along the Red Sea frequented by pilgrims. The pilgrimage is fortunately not as large this year as it was in 1891.

The Regulation of Prostitution.—The Anti-Vice Society has introduced into the New York Legislature a bill for the regulation of prostitution. It provides for three commissioners, having authority to district the city for the houses, and issue licenses ranging from $250 to $500. It also provides for the appointment of six physicians, drawing a fixed salary, who are to make bi-weekly examinations, and six inspectors to exercise a general supervision over these resorts. Syphilis and gonorrhœa are most dangerous when contracted innocently, and this would tend to their diminution.

Complaints Against Brooklyn Hospitals.—The Brooklyn Health Commissioner has sent a list of "rules" regarding the reception of the sick by the city hospitals. There seems to be a curious mixture of authority in Brooklyn, by virtue of which the Health Board can lay down rules for the management of hospitals. The present step has been taken because of complaints that sick and dying patients have been refused admission to hospitals: 1. All ambulance surgeons must be appointed by the Commissioner of Health, but the candidates nominated by the Hospital Superintendents will be accepted if they present satisfactory evidence of the possession of the proper qualifications for the position. 2. The hospital that is under contract with the city to treat the sick poor must maintain an emergency ward, containing not less than two beds, for the temporary reception of ambulance cases. This ward is to be used for no other purpose. 3. When an ambulance case is brought to a hospital from the latter's own district, the patient must be promptly admitted. Whether he shall be retained or not may be determined later. 4. Cases of grave injury or sickness must be admitted even when brought from another district. 5. Cases of delirium and insanity, when brought in an ambulance, must be admitted and cared for until they can be transferred to the Department of Charities. 6. Unless the free beds are all occupied, no applicant for hospital treatment is to be refused without a medical examination.

Deaths Following the Injection of Antitoxin.—A case of death following a preventive injection of antitoxin was reported by Dr. Axel Johanessen to the Medical Society of Christiania on January 9th. The patient was a boy, aged two, suffering from spastic spinal paralysis. In the Hungarian journal *Gyógydaszat*, Dr. Alföldi, of Pancsova, relates the case of a girl, aged three, who received a preventive injection of 2 c.c. of Behring's serum (100 units) on January 16th. This was followed by depression and loss of appetite. On January 18th the temperature rose to over 104° F.; the child complained of pains in loins, and there was considerable albuminuria. On the 19th petechiæ appeared over the whole body, and on the 20th the child died.

A Memorial to the Late Dr. Hack Tuke.—Efforts are being made in London to raise a fund to perpetuate the memory of the late Dr. Tuke.

The Plague has reappeared at Hong-Kong.

Office Frauds and Office Thieves.—We are constantly receiving warning letters regarding office frauds and office thieves either relating the old stories of obtaining money under false pretences from the soft-hearted physician, or of stealing valuables from his office or waiting-room. If every physician would make it a rule never to give money to a stranger, and never allow him to be alone among valuables, much of the misplaced confidence business would died a natural death.

The Gross Prize.—The S. D. Gross Prize of $1,000 has been awarded to Oscar H. Allis, M.D., of Philadelphia, for his essay entitled "An Inquiry into the Difficulties Encountered in the Reduction of Dislocation of the Hip."

The Serum of the Non-immunized Horse has the same value in the treatment of diphtheria as that of the immunized animal. This is the opinion of Dr. Bertin, of Nantes, and is based upon six cases of diphtheria, of which one died.

University of California.—The California Legislature, just adjourned, has appropriated $250,000 to erect a building in San Francisco for the professional departments of the University of California. All the departments are in need of a new home, but no one of them is so badly in need of more commodious appointments as is the medical. It is to be inferred, therefore, that the medical college will get most of the money.

A Grewsome Discovery.—According to the *New York Times*, an investigation of the cause of the prevalence of contagious diseases in the schools of New York City has disclosed the fact that out of 112 school trustees 23, or a little less than twenty per cent., are undertakers; a fact which the *Times* says would be amusing were it not so tragical.—*Boston Medical and Surgical Journal.*

A New Health Resort.—The "Doctoren Collegium" of Vienna recently spent a whole evening in the praise of Ilidze, a small town of Bosnia, as a water-cure. Some of the springs have iron and sulphur, and others resemble the Marienbad and Carlsbad waters. The climate resembles that of Italy.

Leprosy.—One case of leprosy in New York and two in Brooklyn have recently been reported.

Society Reports.

American Medical Association.

Forty-sixth Annual Meeting, held in Baltimore, May 7, 8, 9, and 10, 1895.

(Continued from page 600).

FOURTH DAY, FRIDAY, MAY 10TH.

THE final session was opened by DR. N. S. DAVIS, who was called to the chair in the absence of the President. The latter entered after the minutes had been read, and presided during the rest of the meeting.

The Address on State Medicine.—DR. HENRY D. HOLTON, of Brattleboro, Vt., then delivered the address on State Medicine. He referred to the labors of Benjamin Rush in his study of epidemic diseases, a work which had brought recognition from the Russian Czar, yet was so little appreciated by the profession in America that a sum necessary for the erection of a monument to this physician, sanitarian, and statesman was yet to be contributed. The progress of sanitary science in this country was slow, and it was not until thirty years after attempts to improve the hygienic status of the poor in English towns was made that the first State Board of Health in this country was established by legislative enactment in Massachusetts. "So luminous was her example, and so active, thorough, and faithful in their teachings were the missionaries of this gospel of cleanliness and prevention that now every State in the Union, except three, have their health department established by legislative act, each of which is doing its own peculiar work, diffusing to a greater or less extent in their respective States a knowledge of personal hygiene, and exercising the powers delegated to them to prevent the spread of epidemic and contagious diseases, with the result that the citizen finds himself less liable to the contagion of pestilential disease, and with the prospect of added years to his average of life." The speaker drew special attention to the good work these State Boards have done, and commended them for their enthusiasm, their patience, and their perseverance in the varied, and often delicate, duties which have devolved upon them.

These boards have not all nor always deserved praise, for too often their members have been selected for political reasons and not by reason of their special fitness for the discharge of their peculiar duties. They have also been hampered in their work by niggardly appropriations. It is fitting that the several States should equip in the most efficient manner the militia upon which they rely for the preservation of domestic peace and for protection against possible foreign invasion, but it is painful to note how much less ready the legislators are to vote the comparatively small sums needed for the protection of the people against the invasion of the armies of micro-organisms, whose ravages are so much more destructive of human lives than could possibly be the army of a foreign foe. Vermont spends annually $20,000 more upon its militia than it does on its health department. Massachusetts, which was the pioneer among the States for sanitary science, appropriates annually $187,000 more for maintaining her military establishment than for her Board of Health; and New York, with its peculiar and special liability to invasion by all forms of pestilence, because of its large port of entry, spends nearly $800,000 more for its militia than for its health organization. The reason for this disproportion in expenditure is to be found in the state of public opinion, and an improvement can be brought about only by stirring up public opinion, by agitation as an association and as individuals.

It was not necessary, Dr. Holton said, to urge the desirability of a National Health Bureau, for this Association had more than once put itself on record as in favor of national sanitary supervision. The State boards could do good work each in its own place, but their efficiency was limited by boundary lines and by a lack of co-operation among themselves. The bill introduced into the last Congress by Senator Gray was a good measure, and ought to have become a law, but it came to an untimely death in the hands of the Committee on Epidemic Diseases. It would have been well had this bill been passed, but its failure to pass now gives opportunity for improvement by the provision for an advisory board of one member from each State and from the Medical Corps of the Army, Navy, and Marine Hospital Service. This would render it more practical and more popular. The advisory board would only meet on the call of the Secretary of Public Health to discuss and advise upon such questions as he might propose. They would be his correspondents in different parts of the country, and would be required to render such service as he might demand. In order, however, to secure the passage of any bill it will be necessary to educate the press, and through them the people and their representatives in Congress. This can best be done by the members of this Association, working individually and collectively. Good arguments for the passage of the desired measure can be gleaned from the records of the War Department, which show that during our civil war the number killed in battle, and of deaths from wounds, was 93,443, the deaths from preventable diseases was 108,666. If to this vast number who perished we add those who were disabled and broken in health by the infliction of preventable diseases that did not kill, as instance the 1,700,000 cases of diarrhœal diseases, we have the startling fact that no foe which could give us battle would decimate the active population of the country like the preventable diseases. If we desire to obtain satisfactory legislation the Association should appoint a committee composed of members who are not only familiar with the subject and its requirements, but who are able to present to the congressional committee and to other members of Congress the reason for asking, and the results reasonably to be expected from, such legislation. They would also stand as sponsors for the bill, to see that it was not unduly delayed or killed in committee. Any one conversant with the ways of legislators knows that a bill which has not active and influential sponsors is only too apt to be forgotten. Besides appointing a committee and urging its members to individual action, the Association would do well also to make an appropriation sufficient to cover all reasonable expenses in the furtherance of this measure.

Dr. Holton then outlined the work which would naturally come within the province of a National Bureau of Health. If, as Nordan claims, the number of degenerates is constantly increasing, by reason of the use of narcotics and stimulants, of tainted and adulterated food, etc., then it is time that there should be some authoritative board of the Government to inquire into the causes of this degeneracy and to devise means for their repression. Then, the safety and welfare of the people, as well as the interests of commerce, demand that quarantine be taken out of the hands of the individual States and put under the control of the Federal Government. It is not just to put the expense and responsibility of a quarantine, from which the whole country is to benefit, upon the people of one State, nor is it fair that those living in an interior State should be dependent for their protection upon the efficiency of a seaboard quarantine in the control of which they have no voice. The only remedy for such inequality is to make quarantine the business of the central government. The speaker disclaimed any intention of disparaging by these remarks the excellent work that was being done by local health boards, the State quar-

antine service, and the officers of the Marine Hospital service. He referred with especial commendation to the Canadian quarantine service under Dr. Montizambert, and said that the danger of imported disease from that source was infinitesimal.

Another function of a central health bureau would be the preparation and distribution of animal lymph for vaccination. At present the lymph is prepared by private enterprise, and there is the danger that the producers will become careless in their methods in order to avoid expense. Again, the lymph is sold through druggists, and often remains in stock for weeks, being sold finally after it has become wholly inert. It should be the duty of a National Health Bureau to produce a pure vaccine lymph under the most careful aseptic conditions, and furnish it to State Boards of Health free or at cost. The same remarks would apply to the manufacture of diphtheria antitoxin and of other protective serums that may yet be discovered.

Another subject of investigation of a National Health Bureau would be that of the effects of alcohol as a beverage. The British Medical Association, as well as the Social Science and Public Health associations, have done much to place this question upon a scientific basis; but we know that all diseases are modified by climate and environment, and it is most probable that the same would hold good in relation to the effects of alcohol. We cannot accept the conclusions of British investigators as holding good for America, and there is therefore here another field for the activity of a National Bureau. A most important matter is that of tuberculosis in cattle and its relation to the disease in man. Much work of great value has been done in this line by Law, Bryce, Ernst, Peters, and others, but much more could be done by an organized and well-appointed scientific bureau. Finally, there is the most important question of patent medicines. If the makers of these nostrums were obliged by law to deposit with the Public Health Department, under certain restrictions, as suggested by Dr. Stewart, the formulæ after which the concoctions are prepared, the evil would soon be eradicated, for it lives chiefly upon the mystery hidden behind a trade mark or taking name. The vital questions of pure water, food and drug adulteration, discovery and repression of the preventable causes of insanity and degeneration, the effects of climate upon disease, and many others, call loudly for consideration by a National Bureau of Public Health.

On motion, the thanks of the Association were tendered Dr. Holton for his address.

Dr. Osler, of Baltimore, offered a resolution urging the members to rally to the support of the "Index Medicus," the publication of which was about to cease owing to the lack of funds.

A Relief Fund.—A report was read from the committee appointed to consider the feasibility of the establishment of a benevolent fund. The successful and beneficent working of relief societies in New York and elsewhere was referred to, and it was recommended that a benevolent fund be established in the Association. On motion, the report was accepted and the committee was continued, with instructions to lay before the Association at its next meeting a feasible plan for the creation of the proposed fund.

An Anti-Greenback Resolution.—Dr. Woolsey, of California, introduced a resolution that Congress be petitioned to retire paper money of small denominations and to limit the circulating period of bills of large denominations. He believed that our paper currency was an efficient disseminator of disease, and held that it was useless to establish quarantines or sanitary cordons as long as dirty paper-money was allowed to circulate freely and to carry disease. The resolution was referred to the Section on State Medicine for consideration.

Report of the Nominating Committee.—Action was then taken on the report of the Nominating Committee (see page 595). It was moved that the report of the Committee be accepted, save those sections of it relating to the Secretary and to the place of meeting. Carried. It was then moved that the recommendation of Dr. Woodbury for Secretary be not followed, and that Dr. Atkinson, the present incumbent, be continued in office. Carried. It was then moved that the next meeting be held in Washington, in accordance with a previous resolution designating that city as the place for the celebration of the Jenner Centennial on May 14, 1896. After considerable discussion the recommendation of the Committee was sustained and Atlanta was named as the next place of meeting, Dr. W. S. Westmoreland, of Atlanta, being chosen Chairman of the Committee of Arrangements, and Dr. J. McFadden Gaston, jr., of Atlanta, Assistant Secretary.

The Office of Secretary.—A proposed amendment to the Constitution was submitted abolishing the office of Permanent Secretary and making the office an annual elective one.

Acting Assistant Surgeons.—The Association then adopted a resolution which had been submitted by the Association of Acting Assistant Surgeons, memorializing Congress to pass a bill placing those who served during the Civil War on the same plane as first lieutenants in the regular army.

Delegates to Foreign Societies.—The following were named as delegates to the meetings of Foreign Medical Societies: Drs. W. H. Daly, of Pittsburg; J. H. Ouchterlony, of Louisville, Ky.; I. N. Love, of St. Louis, Mo.; C. G. Chaddock, of St. Louis, Mo.; L. N. Montgomery, of Chicago, Ill.; A. E. Rockey, of Portland, Ore.; I. N. Quimby, of Jersey City, and H. H. Biedler, of Baltimore, Md.

Dr. Beverly Cole, the President-elect, was then introduced, and made a brief address of thanks for the honor conferred upon him.

The meeting of the Association was then adjourned.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

First Day, Tuesday, May 7th.

Mooted Points in Pelvic Surgery was the subject of the address by the Chairman, Dr. Franklin H. Martin, of Chicago, Ill. The author stated that the surgical treatment of fibroids of the uterus is always a fruitful subject of discussion. While he still uses electricity successfully in many cases of fibroids, he does not employ it in the same large proportion of cases that he formerly did. The cases in which he does the most satisfactory work with electricity now are those which the surgeons who have a wholesome regard for their statistics send to him to get rid of, or similar cases which come directly to him. They are usually large hemorrhage tumors, the subjects are anæmic, with hypertrophied hearts, diseased kidneys, skin waxy, and respiration difficult. In other words, they are the most deplorable cases that it becomes the surgeon's lot to behold. Such patients he usually treats with galvanism in strong doses, systematically and rationally applied, combined with the most appropriate tonics and alteratives.

Another class of cases in which galvanism is a justifiable means of treatment is that of the hemorrhagic variety, not of large size, the subjects of which are near the menopause. However, in the present state of pelvic and abdominal surgery, he would not voluntarily administer or recommend galvanism for fibroid tumors which are suitable for operative removal, in patients under forty years of age whose general health shows an average chance for favorable surgery. He is not willing to admit, on the other hand, that galvanism ever does harm in these cases, except-

ing that it may be the means of keeping patients away from more affective methods of surgery. It almost invariably accomplishes good, even if applied but a short time. Galvanism, excepting in fatal doses—the opinion of certain surgeons to the contrary notwithstanding—never produces peritoneal adhesions.

The second point discussed by the author was the removal of the appendages for fibroids. This operation as a remedy for fibroids of the uterus has, in his opinion, about run its course. While, since its discovery, it has served to relieve and cure many women suffering with fibroids, yet like all of the minor surgical methods for that trouble, it has the fatal element of uncertainty, which, in the light of the comparatively safe and certain hysterectomy, makes it less popular as a remedy than it was before the appearance of its more successful rival. When a laparotomy is decided upon at all for these cases, it is difficult to give one good reason why a clean sweep should not be made and hysterectomy performed. When the tumor is large and the broad ligaments consequently spread, a thorough removal of the appendages is more difficult than a hysterectomy; when the tumor is small, the patient is ordinarily in good condition, and while hysterectomy is a little more difficult than the appendage operation, no one can be justified in leaving behind a useless, diseased uterus in order to save a few minutes' time in an operation. If the appendages are diseased as the result of infection, they should certainly be carefully enucleated.

Vaginal ligation of the broad ligament was the third point discussed by the author. This operation, which was devised by him for the treatment of fibroids, is one which does not require a laparotomy. It is a minor operation in every sense of the word, excepting in its execution. It consists in ligating from the vagina more or less of the base of the broad ligaments of either side of fibroid uteri, making the ligation sufficiently deep and comprehensive to include the main channel of the uterine artery and its anomalous branches, as well as the nerve-supply which finds its way to the uterus by this route. In exceptional cases the ovarian artery may be included. The objects of this operation are to check uterine hemorrhage and cause atrophy of the uterine tumor. It may be performed with advantage in all incipient fibroids in which the operation of hysterectomy will not be accepted by the patient, while a minor operation will. It may be performed in hemorrhagic cases, where the loss of blood has reduced the patient to such a degree that it would be unsafe to submit her to hysterectomy. It may be employed when there is advanced heart or kidney disease. It should never be substituted for the more certain hysterectomy when, in the opinion of an expert, the latter can be performed with a reasonable hope of success.

As regards the treatment of the stump in abdominal hysterectomies, Dr. Martin expressed the opinion that the extra-peritoneal fixation of the pedicle as a routine method is no longer justifiable, excepting in rare cases. The objections to that method of treatment are the immovability of the pedicle, its displacement, and its exposure to internal infection. As regards abdominal drainage, the protests against this are so few and unimportant that the question of whether we should ever drain can no longer be considered as mooted. The question how and when we shall drain are points upon which there is still some discussion. He prefers the glass drainage with suction pump, which he regards as the safest and most effectual, and one which is almost invariably applicable. It accomplishes promptly and definitely the removal of all fluids from the peritoneal cavity as often as may seem necessary. For intra-abdominal sutures he considers silk as the ideal material, if it is properly sterilized beforehand and proper care is taken not to infect it afterward. Another point referred to by the author was the failure to recognize obscure kidney disease in patients before submitting them to severe operations; this has been the cause of many avoidable deaths.

Treatment of Fibroid Tumors of the Uterus—A Method of Supra-pubic Hysterectomy for Good Operators and Bad Fibroids.—Dr. Joseph Eastman, of Indianapolis, read a short paper with this title, in which he described the technique of the operation performed by him in dealing with difficult cases of uterine fibroids.

Technique of a New Method of Abdominal Hysterectomy, by Dr. Nicholas Senn, of Chicago, was the next paper read. The author stated that the chief dangers we have to guard against in performing intra-abdominal operations are hemorrhage, shock, sepsis, and injuring important neighboring organs. In all abdominal operations, the exposure of the abdominal contents to unnecessary handling and the loss of heat they sustain are most potent agents in the production of shock. Hence, in the removal of myo-fibroma of the uterus, the abdominal cavity should be exposed for as short a time as possible. With this object in view, he operates as follows: The abdomen is opened in the median line in the usual manner, and the broad ligament on each side tied; the uterus is brought well forward into the wound, and then, at a level with the section through the broad ligaments, the peritoneum is divided from one side to the other, and the flap is reflected and sewn to the parietal peritoneum; the opposite side of the uterus is then dealt with in a similar manner. It is absolutely necessary to cut only through the peritoneum to avoid the large sub-peritoneal vessels, in order to prevent hemorrhage. After closing the balance of the wound the uterus is amputated at the desired point. It is then practically an extra-peritoneal operation, as the uterus, with the tumor, is outside the peritoneum. For the purpose of preventing hemorrhage during the amputation of the uterus, he ties the uterine artery on each side, which is done by applying an indirect ligature; it is not necessary to take the time to isolate the uterine arteries. Amputation is performed by making an oblique incision, so as to make a cone of the stump of the uterus and a corresponding depression in the parts left behind. Very little hemorrhage attends this part of the operation, providing the artery on each side has been tied. After the uterus has been removed he excises the mucous membrane of the uterine canal and closes the wound at once with a row of absorbable sutures, usually chromicized catgut. For the purpose of arresting parenchymatous oozing the cut surfaces are then closely united by two additional rows of buried sutures. No elastic constriction is necessary, nothing exciting subsequent necrosis of tissue. The wound is left in a condition compatible for healing by primary union. It is packed with iodoform gauze and two secondary sutures at once inserted; twenty-four or forty-eight hours later the gauze is removed and the wound closed. If infection should occur after the operation, it is limited to the wound outside the peritoneal cavity. In thirty-five unselected cases in which Dr. Senn has performed this operation, every one of the patients recovered.

Vaginal Ligation of the Broad Ligaments for Fibroids.—Dr. C. C. Frederick, of Buffalo, read a paper on this subject. He reported three cases of fibroids in which he ligated the broad ligaments *per vaginam*, and two cases in which the ligation was performed through an abdominal incision. In the two latter cases the abdomen was opened for other causes than the treatment of the fibroids. The results in all of these cases were very satisfactory, and seem to prove that in certain instances the operation results in an absorption of the fibroid mass. The method, which was introduced by Dr. Martin, of Chicago, is not applicable to all cases, as for instance, when the vagina is very small or the tumor is large and the broad ligaments are difficult to reach. The operation is a conservative one and certainly pos-

sesses merit; it does not interfere with a more radical procedure later on, if such should be required.

Dr. Gordon, of Maine, said that two years ago he took the ground that whenever a patient comes to him complaining of symptoms which are due to the presence of a fibroid in the uterus, he unhesitatingly recommends hysterectomy. Since then he has steadily pursued the same course, and he stands to-day on precisely the same ground. He described his method of operating, and said that in every case where it is possible, he does a complete hysterectomy, taking out the cervix. Drainage is permitted through the vagina. As a rule he discards drainage through the abdominal wound. With strict asepsis and the improved technique at our command hysterectomy probably has a lower mortality rate to-day than ovariotomy.

Dr. Tuttle, of Boston, said that personally he favors total extirpation of the uterus with the cervix. By removing the latter we afford a better means of drainage through the vagina, while by leaving it there is a possible danger of subsequent malignant change occurring in its tissues.

Dr. Howard A. Kelly, of Baltimore, said he disagreed with the statement made by Dr. Gordon, and he sees no necessity for removing a fibroid tumor which is doing no harm. He does not urge the operation unless the patient is suffering in some way from the presence of the tumor; that is, unless she has pain, or hemorrhage, or pressure symptoms. Dr. Senn's method of operating he regarded as a retrograde movement in our technique. Dr. Kelly then described the technique of the operation he usually performs in the removal of fibroid growths of the uterus, which has given very good results in his hands.

Dr. Henry O. Marcy, of Boston, said he was in favor of treating the pedicle by the intra-peritoneal method. When he first suggested this some years ago, it was looked upon as an ideal but not a practical suggestion. The evolutions through which the operation of hysterectomy has recently passed is one of the marvels of modern surgery.

Dr. I. S. Stone, of Washington, said in all of the cases coming under his observation where some benefit followed the use of strong galvanic applications there was ultimately a recurrence of the symptoms and growth. The technique described by Dr. Senn he thought worthy of serious consideration. After the removal of a fibroid of large size, there is always considerable shock, and by following the plan outlined by Dr. Senn, the amount of this shock is minimized.

Dr. Massey, of Philadelphia, said that in the hands of careful men, electricity remains the most valuable agent at our command for the treatment of the hemorrhagic forms of tumor. The treatment must be persistent and long-continued. In growths of large size, the improvement following its use may be slow, and a radical surgical operation may be preferable. In one case coming under his observation, in which Dr. Martin had tied the broad ligaments through the vagina, the tumor decreased in size during the first six months and the hemorrhage was less severe, but after that there was a recurrence both of the size of the tumor and the hemorrhage. Under systematic electrical treatment the patient has since improved greatly.

Dr. George H. Noble, of Philadelphia, said he agrees with Dr. Gordon that when a fibroid gives rise to symptoms sufficiently severe to make a patient ill, it requires attention. It may not be necessary in every instance to perform hysterectomy. When they give rise to symptoms, however, it is best to remove them. During the past eighteen months he has seen five cases of fibroids which had undergone malignant degeneration.

Dr. Baldy, of Philadelphia, said that when a patient comes to him complaining of symptoms due to the presence of a fibroid, he recommends having it removed. Ligation of the uterine arteries appears to be a very plausible and attractive method of treating these cases theoretically; it simply shuts off one-half the blood-supply of the uterus, and there is no reason why a collateral circulation should not be established here, as in other regions of the body.

Dr. Dudley, of New York, said that all the various methods of operating, which were referred to by the different speakers, are applicable in proper cases. We must learn to apply the method to the case—not the case to the method. A complete and radical operation is the most brilliant and often the one most easily accomplished, but it is not always the best one for your patient.

Drs. Frederick, Senn, and Eastman then closed the discussion.

Second Day, Wednesday, May 8th.

Indications for Total Hysterectomy.—Dr. Augustus P. Clarke, of Cambridge, Mass., read a paper on this subject. The following he regarded as the principal indications for a total hysterectomy: Cases in which the uterus may be in a position opposite to that of prolapse, and in such a state of immobility, superinduced by previous inflammatory processes affecting the adnexa, and producing such adhesions of these parts, as to necessitate, for relief, operative interference. In cases of rapidly growing interstitial fibroids, or large suppurating growths developing from a broad, sessile base. In such cases the operation is indicated not only because of the hemorrhage, but also because of the pressure which may take place upon the surrounding parts, and the destruction it may produce in the vascular tissues in the abdominal and pelvic organs. If a large and rapidly growing fibroid should take on a retrograde process, either spontaneously or otherwise, the morbid growth may afford a culture-chamber into which other disease cells may find their way, and then undergo malignant degeneration. In such a condition, total hysterectomy is the only expedient that will afford a complete and permanent cure. If sarcoma is suspected in any part of the uterine system, it should be an indication for action. Total hysterectomy is absolutely necessary for uncontrollable prolapse, if anterior and posterior colporrhaphy and other plastic operations have been repeatedly tried and have failed to produce permanent relief. It is the only safe and surgical expedient to be adopted in cases of hemorrhagic polypi which present suspicious microscopical appearances after removal. It is called for in ectopic pregnancy; in such cases hemorrhage can be more safely controlled and the patient is enabled to make a more rapid recovery than by the other methods of procedure. It should be undertaken in ovarian disease, in pyosalpinx, and in old inflammation of the appendages. It should be resorted to in all suspicious disease of the adnexa, and in cases of large cysts, as well as in papillomatous developments and otherwise irremovable cysts and intraligamentous fibroids and tumors of the broad ligament.

Total Hysterectomy by a New Vagino-abdominal Method.—Dr. Albert H. Tuttle, of Cambridge, Mass., read a paper with this title. The vagino-abdominal method of hysterectomy is characterized by a division of the labor into two parts, vaginal and abdominal. The vaginal part consists of: 1. Sterilization of the cervix and vagina and their maintenance in this condition by closure of the uterine canal with a metal stem, which also serves as a guide for the limits of the cervix and for attachment of an elevating staff. 2. Abcision of the vagino-uterine attachment, dissection of the cervix from the bladder in front and the peritoneum behind, and the packing of the cavity thus formed with gauze. 3. The closure of the vaginal vault from below. (In all except cases of cervical cancer the order of items 1 and 2 are partly reversed.)

The abdominal part consists of: 1. Opening of the

abdomen by a median incision. 2. Ligaturing and section of the ovarian vessels and lateral folds of the broad ligament. 3. Incision of the peritoneal covering of the uterus in front and behind, and its separation with the bladder, to the lines of vaginal dissection. 4. Clamping of the uterine vessels, abscision and removal of the uterus. 5. Eversion of the flaps of peritoneum, with the ovarian stumps, and closure of the lower abdominal opening with concealed sutures, the serous surfaces in contact. 6. Closure aud hermetically sealing of the external abdominal wound.

The special instruments employed in the operation are the uterine stems and the elevating staff. The uterine stem is a device used to cork up the contents of the uterus; to give support and attachment to a staff used for elevating the uterus; and to serve as a guide for determining the position and limits of the cervix. It consists of a cap, to cover the cervix, and a central stem that fits into the canal, the whole being cast and turned from one piece of metal. The cap is concave on one side and convex on the other, has a groove in the edge to serve as director, and a number of T-shaped slots about the periphery for holding sutures. The central stem, two inches long, is either smooth or has a thread cut upon it, and is held in place either by the thread or by a line of sutures. Perforating the stem for the depth of an inch is a conical shaped cavity which receives the staff and holds it by a simple slip joint. The staff is a steel rod bent on the curve of a prostatic catheter, except that the point is directed a little more outward, and is made to fit the cavity of the stem. Both instruments are inserted through the vagina, but the stem is removed with the uterus from the abdominal opening.

Operation.—A short speculum is introduced into the vagina and the perineum depressed. With the help of vaginal retractors the cervix is exposed to view, and drawn as far as it will come into the introitus by means of tenacular forceps. A probe is now passed, and the direction, shape, and size of the uterine canal determined. Unless the canal is freely patent it is dilated, and treated with equal parts of tincture of iodine and carbolic acid, applied on a cotton stick. If the character of the disease is other than cervical cancer, a circular incision is made, simply cutting through vaginal structures, about the uterine neck, keeping as close to the os as possible, yet at the same time sufficiently remote to include all diseased tissues, as in the usual manner of performing vaginal hysterectomy. The uterus is now separated from its anterior and posterior attachments and coverings as freely as possible by means of the finger or handle of a scalpel, and then the cut margin of the vagina is caught with forceps and loosened sufficiently to allow it to be drawn together and sutured. A line of continuous suture is taken about one-fourth of an inch from the cut margin, and is like the ordinary purse-string suture except that the first stitch, which is placed at the back, is carried around the vaginal artery, the suture drawn so as to leave both ends of even length in the vagina, the threads crossed, and then one side of stitches taken with one end, and the other with the remaining end. In this manner the principal vessel is caught in a loop, and when the ends of the suture are drawn tight, not only is the vault of the vagina closed in, but also any tendency to hemorrhage from the vaginal artery is obviated. An uterine stem is then selected according to the length of the cervix and size of the canal; with a soft uterus and large easily dilatable cervix, one with a wide thread is used, but with a cirrhotic organ, one with a fine thread or even smooth stem is preferable. The uterine stem is inserted, and forced into place, after filling the cap with iodoform, either by simple pressure, or in case one with a thread is used by turning it up with a screw-driver, at the same time holding the cervix firmly by means of tenacula forceps fixed into the anterior and posterior lips. If the case is one of cervical cancer the stem must be inserted before any incision is made, and the contents of the uterus and infective parts tightly sealed by sewing the vagina to the edge of the metal cap with sutures taken through normal vaginal structure, and sufficiently remote from the uterus to include all diseased tissue. One then should proceed as above described for non-infective cases. It is often advisable to tie a smooth stem into the cervix with one or more sutures to prevent slipping. The staff is now inserted into the central cavity of the uterine stem and held in place by an assistant; the parts sponged clean and dry; a tampon of iodoform gauze packed into Douglas's pouch, under the peritoneum, and between the cervix and bladder; and the ends of the purse-string-like suture drawn tight and tied, closing in the vault of the vagina below the cervix, gauze, and uterine stem, except for a small opening through which the staff passes.

The patient is now placed in position for abdominal section, with means ready for obtaining the Trendelenberg posture. The usual incision is made, and of variable length, to meet the requirements of the case. The peritoneal cavity is opened at the upper angle of the wound in order that the position of the bladder can be determined before the opening is completed and injury to it avoided. The incision is carried close to the pubes to gain as much room as possible for working in the pelvis. The contents of the abdomen are carefully inspected and the method of dissection determined. If the case is a simple enlarged uterus, with appendages approximately normal, the tumor is drawn out of the wound and to one side; the fold of broad ligament, including the tube and ovary, of the other side is put on the stretch, and a row of sutures passed below the ovary from close to the side of the uterus to the free margin of the ligament, so as to include the ovarian artery. This line of sutures is inserted by means of a perineal needle; is taken like a shoemaker's stitch, but each stitch, which includes but a small amount of tissue, is drawn tight and secured by taking a turn of the loose end of the suture about the other, so as to form a series of single knots. The uterus is then pulled over to the other side, and the remaining tube, ovary, vessel, and ligament secured in the same manner. The ligaments are cut away above the ligatures, and between the points of their excision, across the uterus in front and back, about an inch above the attachment of the bladder anteriorly, and an inch above the cervix posteriorly, the peritoneal covering of the womb is incised. With the help of a scalpel handle the bladder and peritoneum are now rapidly dissected up from the uterus in front until the line of former vaginal dissection is reached; the posterior layer of peritoneum is treated in the same manner; the sides of the uterus are freed from peritoneum as much as possible; when the lateral attachments, including the uterine artery, can be easily clamped, and the organ cut away and removed. In cutting away the uterus keep as close to that organ as possible.

During the dissection an assistant holds up firmly the uterus by means of the staff, which shortens and defines the neck, and enables the operator to quickly and easily perform what is usually the most difficult part of the operation, the enucleation of the cervix. The gauze-packing acts also as a guide, and is of material assistance during this dissection. The uterine vessels are firmly ligatured with kangaroo tendon, the clamps removed, and all oozing of blood from the pedicles stopped by suturing. The anterior and posterior peritoneal flaps are brought together; the cut edges are turned in so as to bring the serous surfaces into contact, and the stumps containing the ovarian arteries are folded in at the angles so as to become extra-peritoneal, the whole being closely united by a line of blind sutures which, when drawn tight, are situated outside of the peritoneal cavity. All clots are removed by dry sponging, the abdominal wound closed layer by layer with animal ligature, and finally sealed with cotton and collodion.

Although ordinarily it is preferable to remove the ovaries should one or both be found firmly bound down by old adhesions, and in a cirrhotic condition, it is better to leave them *in situ* than to delay the operation by such time necessary for their removal. They will, as a rule, give rise to no further symptoms, as has been repeatedly demonstrated by vaginal hysterectomy, where often they must necessarily be left behind. When a large multiple fibroid mass is encountered the topography of the parts must be carefully studied, and the position of the bladder, and, if possible, the ureters, determined. If the growth forms with the uterus a single tumor, the same directions for operating as above described hold good, but where there are several distinct tumors, which are sessile in attachment and appear to have a very large pedicle, a sufficiently long cross incision is made through the peritoneal covering, and each tumor is enucleated as far as possible. By this means the pedicle will usually be found much smaller than expected, forming a part of the uterine attachment, and easily included in the clamp employed for securing the uterine vessels of the same side. Care must be taken in cutting and dissecting back the peritoneal covering not to tear or injure the ureter, the position of which cannot always be recognized. If it is determined passing over the tumor it should be dissected up and carried to one side with the overlying flap of peritoneum; but if it cannot be distinguished, any and all tissue which resembles it should be treated in the same manner, and as the clamps are applied prior to the final abscission, bear in mind the watchword of this operation, *Stick close to the uterus.*

If upon opening the abdomen, bladder, omentum, bowels, uterus, tubes, and ovaries present as a confused and conglomerated mass, firmly bound together by adhesions, the uterus can still be removed, sub-peritoneally, as follows: A point is selected on the fundus of the uterus that is not obscured by adherent viscera, and a small cross incision made through the peritoneal covering. The edges can then be picked up with forceps, the opening intelligently enlarged without injury to the adherent organs, and the peritoneum dissected from the uterus in every direction, well down on the sides, and sufficiently to admit of the easy adjustment of the clamps. The organ is cut away, the vessels secured, and the peritoneal openings closed as before, leaving the tubes and pelvis under the peritoneum to drain per vaginam. In other words, the uterus is removed by the combined method with the same consideration for its surroundings which the French operators have when they extirpate by the vaginal method.

The advantages of the vagino-abdominal method are:

Over the Vaginal Method.—1. The peritoneal cavity is completely closed, and left with no raw surface for subsequent adhesion with viscera. 2. Primary union is the rule and convalescence rapid. 3. The subsequent complication of rectocele or vesicocele is avoided. 4. The uterine vessels in all cases can be perfectly secured and there is no danger of secondary hemorrhage. 5. Abscesses of the tubes and ovaries are more completely removed.

Over the Abdominal Methods.—1. Completely subperitoneal drainage can be established. 2. The length of time which the peritoneal cavity is exposed is greatly reduced by the previous vaginal dissection, and shock is consequently diminished. (A large uterus can be removed in from twenty to thirty minutes.) 3. The limits of the cervix are closely defined and the necessary extent of the dissection readily determined. 4. The asepsis is more complete and there is less danger of subsequent infection.

Over Both.—1. The dangers of hernia are reduced; vaginal, over the vaginal method; ventral, over the extra-peritoneal treatment of a constricted stump. 2. Danger of injury to the ureters is avoided. 3. The manipulation is easier in the most difficult parts of other operations. 4. There is less danger of injury to the bladder and other viscera. 5. Hemorrhage from the vaginal artery is avoided. 6. The operation is practically bloodless. 7. It offers a means for removing large uterine tumors with extensive adhesions, which could only be done with great difficulty or not at all by the other methods. 8. Its greater perfection of the principles of modern aseptic surgery.

Vaginal Hysterectomy for Pelvic Suppurative Diseases and Results.—Dr. I. S. Stone, of Washington, D. C., presented a communication in which he stated that since we have found that the uterus may be removed by the vagina with less shock to the patient than by the abdominal method, we may consider the operation of vaginal hysterectomy as applicable to other diseased conditions than cancer, for which it was first designed. In common with other operators, it is the writer's practice to remove the uterus and the adnexa by the vaginal route for the following conditions: 1. Where operations had been done for salpingitis or purulent collections within the pelvis, leaving extensive adhesions and even an irritative endometritis and vaginitis. 2. In cases where a partial hysterectomy had been done by the supra-vaginal method, leaving a sinus or fecal fistula. 3. In sepsis of the uterus, septic metritis, as after abortion, etc. 4. In purulent collections outside the uterus, pelvic abscess, hyosalpinx, or ovarian abscess.

Vaginal Hysterectomy.—Dr. Edward Garceau, of Boston, Mass., read a short paper on this subject, and showed a number of drawings to illustrate the technique of his operation.

Hysterectomy for Suppurative Disease of the Pelvic Organs.—Dr. J. M. Baldy, of Philadelphia, read the paper. He stated that when in October, 1893, he read a paper on this subject before the Philadelphia Obstetrical Society, and for the first time proposed this procedure as a matter of election, his remarks met with a strong protest and almost universal disapproval To-day the operation is established on a sure and firm basis, and many women who were before doomed to a partial recovery are now blessed with a complete return to health. There is no one who has practised gynecological surgery to even a limited extent but knows that patients suffering from chronic pelvic inflammatory disease are not always cured of their symptoms by the removal of the tubes and ovaries alone. As to whether or not patients are cured after hysterectomy, when double ovariotomy has failed, experience must decide. Six patients are at present under his observation who have been rescued from chronic invalidism by a hysterectomy subsequent to a double salpingo-oöphorectomy.

As regards the mortality following hysterectomy in these cases, of 34 thus far operated on by him, not a single one died. In addition to his own cases, 189 have been reported by five other operators, making a grand total of 223 cases, and a mortality-rate of 2.7 per cent.

It must not be understood that the removal of the uterus, together with the Fallopian tubes and ovaries, is recommended in all cases of pelvic inflammatory disease. In many cases the uterus has succeeded in throwing off the original infection and is comparatively healthy, if not entirely so. Under such circumstances hysterectomy is not indicated. But where an abdominal section has been performed for the removal of the uterine appendages, and the womb is found enlarged and diseased, especially if it has been surrounded by extensive adhesions, the destruction of which leaves large areas of denuded peritoneum, hysterectomy should be the operation of choice.

The Treatment of the Stump in Oöphoro-salpingotomy—A New Method.—Dr. L. H. Dunning, of Indianapolis, stated that there are several serious objections to the method now almost universally employed of treating the pedicle and stump in the operation for the removal of the Fallopian tubes and ovaries. For

some years past he has been striving to devise some method that is safe and free from the objection of the *en masse* method. He does not claim to have found a perfectly safe method, and one that is applicable to all cases in which it is necessary to remove the tubes and ovaries; he does claim, however, that when the method he proposes is applicable, it is far superior in its results to the older procedure. His plan is as follows:

After proceeding with the operation in the usual manner until the adhesions are so far broken up as to permit of the tubes and ovaries being brought into view, the uterus is lifted up toward the abdominal incision by the finger of an assistant making pressure through the vagina. A provisional ligature is thrown around the Fallopian tube close to the uterus. With scissors the tube is cut off beyond this ligature, the severed end is seized by the thumb and finger of the left hand and gentle traction is made upon it, while with a knife or blunt-pointed scissors the tube is cut away by severing the meso-salpinx close to the tube. After its removal one or two small arteries will be found spurting; these can be caught and tied with fine catgut. The ovary may now be taken in hand and its attachment to the broad ligament severed close to the organ. Then take a straight needle, threaded with fine catgut, and beginning at the outer margin of the incised surface, with a running stitch close in all of the raw surfaces, employing the Lembert suture. This completed, tunnel out the uterine end of the Fallopian tube and close the raw surface with fine catgut. Then remove the provisional ligature. Proceed with the opposite side in a similar manner. A dexterous and rapid operator will require from five to eight minutes to accomplish this work on both sides. It takes a little more time than the *en masse* method, and this may be an objection to it in rare instances where rapidity of work is demanded on account of the critical condition of the patient. The method is not easily applied when for any reason the uterus cannot be brought up near the abdominal incision. Dr. Dunning said he has now employed this method in nine cases with great satisfaction in each instance.

The Etiology and Treatment of Inflammations of the Uterine Appendages.—Dr. Augustin H. Goelet, of New York, read a paper on this subject. He stated that for some years past the surgical tendency of the gynecologist has completely overshadowed the rational treatment of diseases of the uterine appendages, and may be regarded as a confession of inability to cure; for no more can it be claimed that the ablation of organs so important to the female economy is a cure of the morbid process than amputation of a limb is a cure of the injured or diseased member. Anyone who has had experience with diseased appendages will admit that it is much easier to remove them than to attempt to bring about resolution of the morbid process and save them. The contention is not that these inflammations of the tubes and ovaries can always be cured, but that it is frequently possible, and that unless immediate operative interference is demanded, the patient should be given the chance and the attempt should be made before submitting her to a radical operation.

Clinically, inflammations of the uterine appendages may be divided into salpingitis and ovaritis, and it is quite impossible to institute rational and successful treatment without first ascertaining both the direct and the indirect cause of the morbid process. Chronic ovaritis may exist as a condition of atrophy, hyperplasia, or cystic degeneration, but the term is most frequently applied to a condition of passive hyperæmia, which, if unrelieved, may result in hyperplasia. Probably one of the most frequent causes of chronic ovaritis is laceration of the cervix during parturition, with subsequent infection through the medium of the lymphatics. It may be the result of an endometritis or growths within the uterus, especially if located in the cervical canal, such as polypi. Fissures of the anus, ulceration of the rectum, and chronic proctitis are also frequent causes of ovarian irritation and hyperæmia.

When salpingitis is found to be associated with a severe type of chronic endometritis with an hypertrophied or granular condition of the mucous membrane, the first step in the treatment should be dilatation of the canal, thorough curettage of both the body and the cervix, followed by packing with iodoform gauze. This should only be regarded as a preliminary step in the treatment, for it is necessary to maintain free drainage from the uterine cavity and tubes, remove all sources of irritation and institute measures which will promote absorption of surrounding exudates and relieve the engorgement of the pelvic vessels. To accomplish the first end, a patulous condition of the cervical canal must be preserved, and the uterine cavity must be kept free from all *débris*, such as small clots and particles of mucus. This is accomplished by the occasional introduction of a small (clinical) irrigator and washing out the cavity with a one per cent. solution of lysol or Thiersch's solution. The absorption of exudates and the restoration of the normal circulation of the pelvis is accomplished by the persistent application of the faradic current of high tension, made sufficiently stimulating to suit each individual case. This not only quickens the capillary circulation and hastens absorption, but by stimulating contraction of the tube-walls and the uterus it favors evacuation of the tubes into the uterus and empties the uterus as well. When salpingitis is associated with simple catarrhal endometritis curettage is not needed. The treatment of ovaritis consists in removing the source of irritation or the cause, when ascertainable, as far as possible.

In connection with his paper, Dr. Goelet exhibited a metal double-current irrigator which he has found very serviceable in washing out the uterus. He also reported a number of cases illustrative of his method of treatment.

Dr. Charles P. Noble, of Philadelphia, said the method of treating the stump advocated by Dr. Dunning was practically the same as that employed by Dr. Pratt, of Chicago. The only difference he saw was that the latter did not put in a provisional suture. Dr. Goelet's paper was interesting, but did not contain anything particularly new on the subject.

Dr. M. Price, of Philadelphia, said he wished to criticise the tendency constantly manifested to devise new methods. This is not necessary, because the rules laid down by the older surgeons, such as Tait and Keith, answer every purpose. The speaker said he agreed with the statement made by Dr. Goelet that many patients with ovaritis and salpingitis are being operated on unnecessarily. During the past year he has turned away many women, telling them that there was nothing the matter with their tubes or ovaries, and yet nearly all of them succeeded in finding another surgeon to remove their appendages. In cases where actual tubal or ovarian disease exists, he regards simple curettage and drainage of the uterus as futile. In many of these cases the cervical end of the tube is entirely obliterated by the inflammatory condition.

Drs. Dunning and Goelet then closed the discussion.

Hysterectomy for Puerperal Infection.—Dr. Reuben Peterson, of Grand Rapids, read a paper on this subject, of which the following is a summary: 1. Puerperal sepsis is still a common disease, although in the hospitals the mortality from this source is practically *nil*. 2. There are two forms of puerperal endometritis, (*a*) putrid; (*b*) septic. 3. In the septic form there may or may not be present a granulating zone acting as a barrier to the further penetration of the germs. 4. Putrefactive germs may be absent: hence fetid lochia may also be absent. 5. Putrid endometritis signifies necrosis of the lining membrane of the uterus and the presence of decomposed material. 6. This variety is prone to develop toxins, the absorption of which gives rise to sap-

ræmia. 7. Clinically, cases of puerperal septicæmia may be separated into two large divisions, (*a*) where general infection predominates; (*b*) where localized inflammatory deposits are present, the general infection being secondary and less important. 8. The area of septic inflammation may be in the adnexa, pelvis, cellular tissue, or peritoneum. 9. This class of cases presents the most favorable field for operative procedures. 10. It is almost impossible to make a differential diagnosis between those cases of septic infection having a granulating zone in the uterine tissue and those where it is absent. 11. These cases should be curetted with a dull instrument and packed with gauze. 12. If there is no improvement in the symptoms within twelve or eighteen hours, the source of the infection, namely, the uterus, should be removed. 13. Hysterectomy should not be condemned because of its failure when performed too late. 14. If this operation be done early enough, it will be the means of saving a number of lives.

Cœliotomy for Puerperal Septicæmia and for Puerperal Inflammatory Conditions.—Dr. Charles P. Noble, of Philadelphia, Pa., said that the present status of the subject of cœliotomy for puerperal septicæmia and puerperal inflammatory conditions may be summed up as follows: These cases may be divided into two classes: 1. Those having morbid conditions in the pelvis antedating labor, such as tumors, pus-tubes, or other septic accumulations, the bruising or rupture of which during labor leads to peritonitis or septicæmia. Prompt operation in these cases has given good results. 2. Those having normal pelvic structures at the onset of labor. The infective process may spread through the lymphatics to the peritoneum, and give rise to peritonitis, cellulitis, and septicæmia. It may spread by way of the Fallopian tubes to the peritoneum, or it may be limited to the utero-vaginal canal. Cœliotomy is not indicated in lymphoid peritonitis, as the morbid process is too wide-spread to be reached by operation. Cœliotomy is very fatal in cases of general puerperal peritonitis. The only ground for advising the operation with such a diagnosis is the possibility that the diagnosis may be erroneous. The prognosis is best when cœliotomy is done for localized peritonitis, when the process has become more circumscribed, and the element of sepsis eliminated; in other words, when the case has resolved itself into one of pyosalpinx, abscess of the ovary, or of pelvic abscess of puerperal origin. The prognosis is good when cases of localized peritonitis are operated on promptly; that is, within two or three days of the beginning of the attack, or at about the end of the first week of the puerperium. Hysterectomy is indicated for those cases in which the infection is limited to the utero-vaginal canal, when in spite of thorough curettement of the uterus, together with copious irrigation and the employment of proper systemic treatment the infectious process increases in severity. In dealing with the lesions of puerperal septicæmia by operation, cœliotomy affords an opportunity for satisfactory diagnosis and adequate treatment. The organs involved may be palpated and inspected, and when necessary the operation may be followed by irrigation and satisfactory drainage. The vaginal route is indicated when there are large pus accumulations which are found late in the puerperium.

Dr. A. Lapthorn Smith, of Montreal, said that when we have to deal with a case of puerperal fever which in spite of careful curetting and irrigation continues to grow worse, an operation should be resorted to. He was among the first to open the abdomen for this condition. In such a case the infective process has invaded the walls of the uterus itself and the lymphatics that run along its side, and the only rational thing to do is to open the abdomen and remove the uterus. He is strongly in favor of the abdominal method, in preference to the vaginal, as it gives us a better opportunity to completely eliminate the source of the infection.

Dr. Henry Newman, of Chicago, expressed the opinion that by merely curetting the uterine cavity we accomplish very little in these cases. It is his practice to supplement the curetting by swabbing out the uterus with a ninety-five per cent. solution of carbolic acid.

Dr. Dunning reported two cases coming under his observation in which the presence of pus in the pelvic cavity antedating delivery gave rise to puerperal septicæmia.

Dr. J. H. Carson, of Detroit, said that in certain cases, where the puerperal symptoms are due to the presence of small pieces of placenta or membranes in the uterus, curetting and swabbing with strong carbolic acid is often all that is necessary. He is not in favor of packing the cavity with gauze after curetting, believing that freer drainage will take place without it. There are other cases of puerperal septicæmia, coming on late, that is, about the ninth or tenth day after delivery, which are the result of some peculiar kind of infection and often end fatally.

Dr. W. H. Humiston, of Cleveland, referred to two cases of puerperal septicæmia coming under his observation during the past year. In both he advised hysterectomy, and in both cases the operation was refused. One of the patients died after a prolonged illness while the other recovered.

Dr. John M. Duff, of Pittsburg, said that when improvement does not occur in these cases after the usual plan of treatment has been faithfully carried out, it is our duty to operate.

Dr. L. S. McMurtry, of Louisville, said he thought it would be a great misfortune to have the statement go out from this meeting that in every case of puerperal fever which does not yield to ordinary treatment a hysterectomy is demanded. Puerperal fever is very common, and the majority of the cases recover under an expectant plan of treatment. In his opinion hysterectomy should only be resorted to on the same principles that it is done in other conditions. When there are some demonstrable lesions in the pelvis, then it is proper to resort to an operation.

Dr. M. Price said he never employs the curette, the use of which he regards as very injurious in any form of puerperal fever. Tamponing the uterus with gauze should also be avoided. As regards the performance of hysterectomy in puerperal septicæmia, it should be considered nothing less than a criminal procedure. If this operation is done in such a case and recovery occurs, it is the result of a happy accident and not the surgeon's skill.

The discussion was continued by Drs. Baldy and J. C. Dacosta, of Philadelphia, and Dr. Davis, of Birmingham, Ala., and then closed by Drs. Noble and Peterson.

SECTION ON DISEASES OF CHILDREN.

Second Day, Wednesday, May 8th.

Antitoxin in Diphtheria.—Dr. Louis Fischer, of New York, read a paper giving a summary of his clinical experience in hospital and private practice with diphtheria antitoxin. The percentage of mortality estimated previously to using antitoxin was probably fifty-five per cent. In April, the speaker reported over two hundred cases with an average mortality of about fifteen per cent. In cases complicated with other diseases, such as measles and scarlet fever, the antitoxin does not produce such good results. The use of an inferior preparation, the author thinks, is confusing results and adversely prejudicial to the treatment. The preparation of German antitoxin is under State control, and this assures satisfactory preparations and unvarying strength.

Cases were read to illustrate the effects of the antitoxin and charts of the temperature record, etc. A new syringe, made by Codman & Shurtleff, was exhibited.

One severe case of laryngeal stenosis requiring intubation, considered hopeless, was remarkably relieved and got well promptly by use, after intubation, of antitoxin. It was one of those very malignant cases; no one who saw it had any expectation of its recovery. Remarkably good results have been observed by the author, as by reporters abroad, of the combination of intubation and antitoxin.

The author claims that his results have been five hundred per cent. better with antitoxin than previously by any treatment. The Berlin experience of reduction of mortality by this treatment from forty to twelve per cent., and its sudden return to the former figures or discontinuance of it, was referred to as important. The reader cannot attribute results to any other cause than the antitoxin. He would not dispense with its use any more than with mercury in syphilis. He confines himself to using the German preparation, Behring's.

Clinical Experience in the Treatment of Diphtheria with Antitoxin.—Dr. A. Campbell White, of New York, followed with a paper on this subject. We have had experience in this country of about a year; but only six months of reliable experience, because of the difficulty of obtaining good preparations. Abroad the experience has been larger. We have been only copying them. We ought now to be in a position to declare whether antitoxin is really beneficial or not. Laboratory testimony of antitoxin in animals in curing diphtheria is all favorable. Clinical study only corroborates the laboratory experience. Some reporters declare it of no benefit, others can attribute only to it the good results obtained. The explanation is in the different conditions, complication of cases, and inferior preparations of antitoxin. These factors have vitiated results in the case of those who have obtained no good. The reader reaffirms former published statements that he has no doubt of the curative and specific action of antitoxin in diphtheria.

Experiences were then related *in extenso*. Mild cases will get well, of course, and it is difficult in these cases to estimate the effect of antitoxin, but it is in the malignant or severe cases where it must be tested to prove its real worth or uselessness. The most important effect is shown in the power of the remedy to abort or check the development of the disease. Used early, the author had not failed to observe marked effects. In the cases where there is extensive glandular enlargement and pain in deglutition, marked effects for relief in pain and swelling follow more quickly than by other remedies.

Its Effects on Systemic Symptoms, Temperature, and Pulse.—This last symptom is so varying in most cases of diphtheria that it is difficult to estimate the effect; on the pulse it may be easier to be seen. Paralyses seem to be diminished in severity and frequency. On the kidneys the effects are, if anything, to lessen this complication. The symptoms do not change immediately, but after about twelve hours they often occur suddenly. Dr. Winter's opinion that the antitoxin produced no good effects is erroneous; his observations are inadequate. The reader has never seen any dangerous effects ascribable to the use of antitoxin.

Conclusion: Antitoxin is a specific and reliable cure for diphtheria, and if a properly prepared serum is used with discretion, it is free from any dangerous effects. It is important to have a good syringe, properly disinfected. Several syringes were displayed by the reader, one of his own adaptation made by Ford.

Lacunar Diphtheria of the Tonsil.—Dr. Henry Koplik, of New York, read a paper on this subject. He referred to Trousseau's observation of certain forms of tonsillitis followed by paralysis, in which there was no membrane, and regarded as non-diphtheritic. The disagreement between Fränkel and Jacobi on the subject was cited, Jacobi taking the ground that diphtheria may be present without any membrane, while Fränkel denied this. Observations were mentioned by the author of cases in which contagiousness was proved where there was no membrane, giving rise in some cases to malignant diphtheria in other members of the same family. These observations have been published.

The first class of these cases clinically cannot be distinguished from simple follicular tonsillitis; in another class there is more depression. There may be great depression, septic symptoms, perhaps low temperature—in fine, the symptoms of genuine diphtheria. Bacilli found in these two classes of cases are virulent.

What shall One do with these Cases?—A case was cited in which diphtheria developed in a freshly cut surface of the stump after tonsillotomy. From this the author drew the conclusion that the follicles of the tonsil afforded a lodging-place for the bacillus, which developed on the freshly cut surface. It is time to drop the theory that there is no diphtheria present without membrane. Cases of tonsillitis should be isolated and watched.

False Croup.—Dr. Starling Loving, of Columbus, O., read a paper with this title. The reader began by referring to our frequent embarrassment before cases, as to whether we had true croup or false croup, by which he referred to catarrhal and spasmodic croup. He acknowledged his own mistakes in the matter. The false croup was always recovered from, and this was favorable to statistics of purported true croup. False croup may prevail to a considerable extent at a given time, but is not truly contagious or communicable. True croup is rare, false croup very common.

False croup, like bronchitis, is often preceded by coryza. There is catarrh of the pharynx, larynx, and trachea. True croup is also preceded by catarrhal symptoms, but of more severe character, with bronchitis, frequently swelling and soreness of cervical and submaxillary glands. Pharyngeal diphtheria may be present, when the diagnosis is rendered much more probable. The dyspnœa in false croup is greatest during the early part of the attack, during the first twenty-four hours. This is more or less true of other symptoms. After this the difficult breathing is usually relieved. In true croup there is progression of severity of symptoms until the end, or until separation of the membrane. There is frequently chill at the beginning. The heart and pulse grows weaker with the progress of the disease. There is fever continued throughout; head symptoms may arise. Appetite is absent. Emetics do not produce permanent good, in fact harm in the depression following them. While in false croup vomiting gives marked relief, which is often permanent as to the dyspnœa. In false croup the voice may be suppressed to a whisper. Symptoms develop rapidly in false croup; in diphtheria of the larynx they may occur rather quickly, but not as a rule. Examination of the throat, if the membrane can be seen, often a difficult thing, of course settles the diagnosis.

If death occurs in false croup it is rare; probably in such cases autopsy would show true croup. False croup is apt to recur in the same patient—one attack induces another. As to this feature we are not altogether decided in the case of diphtheritic croup. The bacillus cannot always be found when present, but when it can be is conclusive.

Dr. J. P. Crozier Griffith, of Philadelphia, was impressed by the fact that the Philadelphia physicians do not see so many cases of diphtheria as are seen in New York—in fact only, as a rule, sporadic cases. The speaker was somewhat sceptical regarding the antitoxin, on account of failures of other vaunted remedies, but he had got now where he should want to use it were he attacked by diphtheria. In lacunar tonsillitis experience had taught him great caution, and to isolate his cases. No doubt some apparently simple cases proved to be diphtheria.

Dr. Welch felt that he had not much to say. As to antitoxin in diphtheria he had had some little

experience—something like a hundred cases. The speaker expressed appreciation of the desirability of such a remedy, but he acknowledged his disappointment in the results of the use of antitoxin as far as his own observations go. Other remedies have given as good results in his hands. However, he would not condemn it on his present experiences, but wait for more. Behring's (No. 2) had been mostly used. The results in the hundred cases give a mortality of about twenty-five per cent., while previous experience gave about twenty-eight per cent. In the former the hopeless cases were excluded from the statistics. Dr. Welch referred to his frequent experience of cases in the same family, illustrating diphtheria confined to particular regions in one, the nose perhaps, and another the pharynx or the larynx.

Dr. J. O. Larrabee, of Louisville, Ky., said that when reporters gave such results as the last speaker he had grave doubts as to their absolute reliability in some way. This applied to some extravagant statements of a speaker regarding his successes with the use of antitoxin in diphtheria. He referred to Jenner's discovery, "who shut the doors of death on small-pox." The discovery proved itself by this and needed nothing more. The same course will prove the crucial test in regard to antitoxin. It will stand or fall on it. We now believe it will stand, but it is not yet time for extravagant enthusiasm. The speaker spoke of a form of tonsillitis arising from drain- or sewer-poisoning, which is communicable, seeming to be a specific disease, but not true diphtheria.

In regard to the term false croup, he wished to express his hope that the time of negative names for disease, like false, would come to an end some time. It was not creditable to scientific medicine to continue to use such terms to describe diseases; names ought to be affirmative and inclusive, not negative and exclusive; truly descriptive of the entity, if possible. The speaker emphasized the point claimed by some that the great difference in results reported from the use of antitoxin was very largely due to the use of different preparations of the serum. The bad results were due to bad serum. He referred to the professional prejudice at the time of Jenner.

Dr. Ingalls, of Chicago, remarked that we were probably on the right track with antitoxin. Observations reported are often worthless because of doubtful diagnosis. There was no use of such report scientifically unless there was bacteriological proof of the disease furnished by reliable bacteriologists.

Many of the cases reported lack proof of presence of the specific germ of the disease. This vitiates the statistics, to begin with. Again, the rate of death varies from ten to seventy per cent. in the same epidemic at different periods, sometimes under the old treatment. We may be in the right way, but at present we are not absolutely sure. But we are sure enough to warrant every physician in not neglecting to use the remedy.

Dr. Young, of Newark, regards antitoxin as a baby in long clothes, which he has great hopes to see grow to vigorous adult life. Results have been good in his practice without it, largely by the use of pilocarpin.

One speaker, claiming large experience with diphtheria and lacunar tonsillitis, regards the latter as always suspicious and takes precautions as in cases of undoubted diphtheria. Reported a case, regarded as hopeless, in which antitoxin, two strong doses, was followed by recovery. This case made a great impression on him, favorable to the remedy.

Dr. Fischer, in rebuttal, spoke of what Dr. Ingalls had said. He objected to the term experimentation as applied to antitoxin now. There are two rival factions in Germany, one is Behring's, the other Aronson's. The different preparations of Behring should be carefully distinguished, and these from Aronson's. In using antitoxin no cases, however bad, unless actually moribund, should be excluded from treatment, nor their results from statistics, as had been done in Dr. Welch's cases. He would like to have Dr. Welch allow him to send him some of the antitoxin which he employs, and try it without prejudice. He had confidence that Dr. Welch would, after using it, change his opinion. All this scepticism has come since so many new preparations have come into use, and is due to the inferiority of many of these. Solid antitoxin has been produced in Germany, but does not keep so well as the fluid.

Dr. White, in rebuttal, remarked that he believed we put too much importance in statistics. Actual experience in cases was absolutely convincing to him, without any statistics, after a large experience with and without its use. In answer to Dr. Ingalls as to the variation of mortality in the same epidemic, it should be remembered that this had been answered by actual experience in the discontinuance of the remedy, and then resuming it, in the same institutions in Germany and France, where it was found that the mortality increased with such discontinuance, and again would improve with its resumption. He thinks cases develop from simple to diphtheritic inflammation by the presence of Klebs-Loeffler bacillus in the throat, which have not developed until after the ground had been prepared by the simple inflammation. This would, perhaps, account for many cases of follicular tonsillitis, which prove, on bacteriological examination, to be diphtheria.

Dr. Loving, in rebuttal said, he believed he had seen membranous croup not caused by diphtheritic infection—cases which are not communicable—do not contain the specific germ. He believes lacunar diphtheria of the tonsil extremely rare. Follicular tonsillitis is mostly due to suppurative germs, not to the Klebs-Loeffler bacillus. He deprecated that he could not make names for disease, but must use those already applied by the profession. He was aware that false croup was a bad term.

Election of Officers.—The following officers were elected for the ensuing year: *Chairman*, Dr. A. C. Cotton, of Chicago; *Secretary*, Dr. J. A. Work, of Elkhart, Ind.; *Executive Committee*, Dr. C. G. Jennings, of Detroit; Dr. W. S. Christopher, of Chicago, and Dr. Edward H. Small, of Pittsburg, Pa.

(To be continued.)

ASSOCIATION ITEMS.

Receptions.—On Tuesday evening receptions were held at the residences of Dr. Chisolm, Johnson, and Kelly; on Wednesday evening at the Johns Hopkins Hospital; on Thursday evening at the Music Hall.

The First Annual Meeting of the Association was held in Baltimore, on May 2, 1848; the first small-pox hospital in the United States was established there by Dr. Henry Stevenson in 1769; the first dental college was organized there in 1839.

The Judicial Council might well, from the character and tone of its decisions, be called the Judicious Council.

The Faculty of the Woman's Medical College gave a reception on Wednesday evening to the wives and daughters of the visiting physicians and to the women members of the Association, at the college building, corner of Hoffman and McCulloh Streets.

The Hymn to Hygeia, composed by Dr. John C. Hemmeter, was sung at the reception on Thursday evening in the Music Hall.

Association of Acting Assistant Surgeons.—At a meeting of this association held on Wednesday, a resolution was adopted to memorialize Congress to commission acting assistant surgeons of the army to the rank

and pay of lieutenants. The following are the officers of the association: *President*, D. S. Lamb, of Washington; *Vice-Presidents*, J. L. Ord, of California, A. L. Comfort, of Wisconsin, and John P. Pratt, of Massachusetts; *Recorder*, W. T. Parker, of Massachusetts; *Register*, J. S. McLain, of Washington, D. C.; *Council*, H. M. Deebles, Charles W. Gumbes, Samuel C. Benedict, W. C. Dixon, H. R. Porter, G. L. M. Gillicuddy, W. J. Hoffman and A. F. Paftee.

The Flint Club entertained a number of the visiting physicians at a supper on Wednesday evening.

Officers of Sections.—The following were elected: *Neurology*—Chairman, Dr. T. D. Crothers, of Hartford, Conn.; secretary, Dr. William J. Herdman, of Milwaukee, Wis. *Materia Medica*—Chairman, Dr. F. E. Stewart, of New York; secretary, Dr. W. B. Hill, of Milwaukee, Wis. *Ophthalmology*—Chairman, Dr. Lucien Howe, of Buffalo, N. Y.; secretary, Dr. Frank Allport, of Minneapolis, Minn. *Practice of Medicine*—Chairman, Dr. William E. Quine, of Chicago, Ill.; secretary, Dr. DeLancey Rochester, of Buffalo, N. Y. *Dental and Oral Surgery*—Chairman, Dr. R. R. Andrews, of Massachusetts; secretary, Dr. Eugene Talbot, of Chicago, Ill. *State Medicine*—Chairman, Dr. Charles H. Shepard, of Brooklyn, N. Y.; secretary, Dr. Albert L. Gihon, U. S. Navy, Washington, D.C. *Dermatology*—Chairman, Dr. L. Duncan Bulkley, of New York City; secretary, Dr. T. C. Gilchrist, of Baltimore, Md. *Laryngology and Otology*—Chairman, Dr. G. V. Woolen, of Indianapolis, Ind.; secretary, Dr. M. R. Ward, of Pittsburg, Pa. *Obstetrics*—Chairman, Dr. Joseph Taber Johnston, of Washington, D.C.; secretary, Dr. Reuben Peterson, of Grand Rapids, Mich. *Surgery*—Chairman, Dr. C. A. Wheaton, of St. Paul, Minn.; secretary, Dr. W. L. Estes, of South Bethlehem, Pa. *Diseases of Children*—Chairman, Dr. A. C. Cotton, of Chicago, Ill.; secretary, Dr. J. A. Work, of Elkhart, Ind.

American Medical College Association.—At the last meeting of this Association the constitution was so amended that all candidates for the degree of M.D. in 1899, or thereafter, shall have pursued the study of medicine for a period of four years and attended at least four courses of lectures of not less than six months' duration each. This includes the students entering the institutions in the fall of 1895. To this plan some of the colleges were opposed; they asked for an extension of time when the four years' course should go into effect. A letter was read from Dr. Thomas Opie, Dean of the College of Physicians and Surgeons, of Baltimore, proposing that the time for the four years' course to go into effect be changed to the students entering the schools in 1900, or an extension of the time to five years. The convention decided by 29 to 5 that the four-years' course shall go into effect with the students entering in 1895. The Association elected the following officers: *President*, Dr. William Osler, of Baltimore; *Vice-Presidents*, Drs. J. M. Bodine, of Louisville, and D. W. Graham, of Chicago; *Secretary and Treasurer*, Dr. Bayard Holmes, of Chicago.

Fête Champêtre.—A lawn party was given at the Sheppard Asylum on Thursday afternoon. The day was fair, and most of the visiting ladies were present.

Club Privileges.—The Athenæum, University, and Catholic Clubs offered the privileges of their house to the members of the Association, and to the ladies the privileges of the rooms of the Arundel Club were extended.

The Metric System has been officially adopted by the Association, and all members are requested to employ this system in papers presented at future meetings.

The Weather during the week was warm and humid, with occasional showers.

An Excursion to Gettysburg was made by special train on Friday, nearly two hundred of the members and their ladies taking this opportunity to visit the historic grounds.

Hospitals.—On Wednesday a number of the hospitals of the city were inspected by the members of the Association. The hospitals thrown open were the Baltimore City Hospital and College of Physicians and Surgeons, Baltimore Medical College and Maryland General Hospital, Baltimore University Hospital and Medical School, Garrett Free Hospital for Children, Hebrew Hospital, Hospital for Women of Maryland, Hospital of Good Samaritan, Johns Hopkins Hospital, Maryland University Hospital and Medical School, Presbyterian Eye and Ear Hospital, Sheppard Asylum, St. Agnes's Hospital, St. Joseph's Hospital, United States Marine Hospital.

The Association of American Medical Editors elected the following officers: *President*, Dr. George M. Gould, of Philadelphia; *Treasurer*, Dr. Ohman Dumesnil, of St. Louis; and *Secretary*, Dr. H. B. Ellis, of Los Angeles, Cal.

State Examining Boards.—A conference of officers of a large number of the State Medical Examining Boards was held on Thursday, with Dr. William E. Quine, of Chicago, in the chair. The adoption of a constitution and by-laws for the government of the organization was discussed, and a committee was appointed to draft the same. The following officers for the ensuing year were elected: *President*, Dr. W. W. Potter, of Buffalo; *Vice-President*, Dr. J. M. Hayes, of Greensboro, N. C.; *Secretary*, Dr. B. N. Griffith, of Springfield, Ill. The selection of the time and place of the next meeting was left to the president and secretary. The object of the Association is to establish a uniform standard of requirements for all the medical colleges and examining boards in the country.

The Jenner Centennial.—Dr. J. M. Toner, of Washington, chairman of the committee to provide for the celebration in Washington, May 14, 1896, of the anniversary of Jenner's discovery of vaccination, sent a letter requesting to be relieved of his duties by reason of ill-health.

The Section Meetings and general sessions were all held in one building, the Music Hall. This was a great convenience for those who desired to attend the general sessions as well as the meeting of their own section. The acoustic properties of the main auditorium, where the general sessions and the meetings of the gynecological section were held, were very bad, and even the best speakers could not be heard at a little distance from the platform.

Medical Temperance Association.—The annual meeting of this society was held on Thursday. Dr. N. S. Davis read a paper entitled: "Does Alcohol ever Act as a Food or as a Generator of any Natural Force in the Living Body?" His answer to this question was in the negative. He thought that alcohol might possibly retard wasting of the tissues, but this is not equivalent to the building up of tissues. The following officers were elected to serve during the ensuing year: *President*, Dr. N. S. Davis, of Chicago; *Vice-Presidents*, Dr. J. M. Quimby, of Jersey City, Dr. J. B. Whiting, of Wisconsin, Dr. T. E. Yoakum, of Louisiana, and Dr. J. Taft, of Cincinnati; *Secretary*, Dr. T. D. Crothers, of Hartford, Conn.; *Treasurer*, Dr. G. W. Webster, of Chicago, and *Corresponding Secretary*, Dr. J. H. Kellogg, of Battle Creek, Mich.

The Vice-Presidents.—The wires made havoc of the residences of the vice-presidents elect in the list which was telegraphed from Baltimore and printed on page 595. Dr. Clark, the third vice-president, is from Massachusetts, and the fourth vice-president, Dr. Satterwhite, from Kentucky.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 11, 1895.

	Cases.	Deaths.
Tuberculosis	101	69
Typhoid fever	4	3
Scarlet fever	91	13
Cerebro-spinal meningitis	2	2
Measles	277	24
Diphtheria	230	48

A Temperance Drink.—The *Medical Times* says that there is a great boom in temperance saloons in the East End of London. The public-houses are deserted, and the "ginger-pop" store is besieged by clamoring crowds of thirsty souls, and the East-end thirsty one is a masterpiece of his kind. This sudden conversion after temperance lecturers, General Booth's Army, and a host of other reforming agencies have failed to make an impression on the imbibing proclivities of the East-ender, has puzzled the local social reformers sorely. The clew to the mystery has, however, been discovered by Mr. Stokes, public analyst for Bethnal Green, who has analyzed a sample of ginger wine, sold at a temperance beverage store, which contained ten per cent. of proof spirits, an alcoholic strength just double that of the ordinary beer sold at the public-houses in the neighborhood.

Period of Infection.—The Pennsylvania State Board of Health has adopted the following regulations in the diseases mentioned below:

Small-pox.—Six weeks from the commencement of the disease, if every scab has fallen off.

Chicken-pox.—Three weeks from the commencement of the disease, if every scab has fallen off.

Scarlet Fever.—Six weeks from the commencement of the disease, if the peeling has ceased, and there is no sore nose.

Diphtheria.—Six weeks from the commencement of the disease, if sore throat and other signs of the disease have disappeared.

Measles.—Three weeks from the commencement of the disease, if all swelling has subsided.

Typhus.—Four weeks from the commencement of the disease, if strength is re-established.

Typhoid.—Six weeks from the commencement of the disease, if strength is re-established.

Whooping Cough.—Six weeks from the commencement of the disease, if all cough has ceased.

Under judicious treatment the periods of infectiousness may be considerably shortened.

Length of Quarantine.—Teachers, or children, who have been exposed to infection from any of the following diseases may safely be readmitted to the school, if they remain in good health (and have taken proper means for disinfection), after the following periods of quarantine:

Diphtheria, twelve days; scarlet fever, fourteen days; small-pox, eighteen days; measles, eighteen days; chicken-pox, eighteen days; mumps, twenty-four days; whooping-cough, twenty-one days. Adults may be readmitted immediately, if they disinfect their clothes and persons.

Subcutaneous Injection of Oil in Cases of Stiffened Joints.—In two instances of stiffened joints, where the inability to move the limb has appeared to arise from rigidity of the tendons and muscular sheaths, I have injected, subcutaneously, olive-oil into the structures, and with some success. I find that a fluid drachm of oil can be injected around the knee-joint without causing any after inflammation or discomfort. In one instance where the elbow was operated on in this way, the patient, a young woman, obtained for the first time some degree of movement after six months' entire fixation from rigidity.—Sir B. W. Richardson, in the *Asclepiad.*

Methuselah was no older than he ought to have been when he died, according to the calculations of Dr. Samuel Wilks. He bases this assertion upon the relative proportion that is believed to exist in animals between the duration of life and that of their immaturity. A few thousand years ago, he thinks, it took much longer for a person to reach full maturity, as the patriarchs seldom married until they were a hundred years old or so. Now, as it is unlikely that they were waiting for an increase in salary before indulging in matrimony it is almost certain that they were still undeveloped. "The principal facts mentioned in the lives of the patriarchs, calculated to guide us," he said, "are the time of their marriage and the birth of their first child. Now, if this be taken as the commencement of manhood, we see how this term is delayed, so that its proportion to the whole duration of life is preserved. Thus, Methuselah lived to be 969 years of age, and his first child, Lamech, was born when he was 187 years of age." We are uncertain whether Dr. Wilks is trying to enlarge his talent for humor, or whether he really believes what he says.

Evils of Quackery.—Quackery is medical practice commercialized, and therefore prostituted. It thrives because the victims are in the majority and are easily reached by lying advertisements. "What is the proportion of sensible people in this crowd?" asked a patent medicine man of a physician. "About 1 in 10," was the answer. "I take the nine and leave the one to you," said the quack. This represents the majority which help to make the quack rich. The nostrums cost almost nothing; but the capital is used in advertising, in making pictures of the idiots and feeble-minded who imagine themselves cured; in placarding fences; in defacing scenery; in publishing manufactured certificates; in ridiculing scientific medicine; in alarming the credulous; in claiming false discoveries; and in vaunting impossible results. But these are the men who make the money. Medicine to them is the nickel-in-the-slot machine. The diagnosis is ready-made to suit every need, and even otherwise sensible people are being educated into quackery and into the belief that every man can be his own doctor and not have a fool for a patient.—Dr. George F. Shrady in *Forum.*

Physicians in Literature.—Physicians occasionally drop into literature. Dr. B. H. Throop's book, "A Half Century in Scranton," though not strictly medical, contains some quaint and interesting reminiscences of practice in the primitive settlements of the anthracite region. We quote: "There was but one physician in the town in 1840; he rarely gave any medicine except rhubarb and soda. When called in haste, his patrons requested he would go on foot. He performed all the duties of doctor and nurse for all the country around." Called long distances through the mountains, Dr. Throop often met startling emergencies and improvised means for desperate operations. He relates an amputation of both feet for gangrene in which his operative outfit consisted of a razor and a common hand-saw; the patient survived. In one chapter he describes the trials and difficulties of a surgeon going out with the first troops in the Civil War, and in another detail, the founding and early history of the first hospital of the coal region. Dr. Throop is eighty-three years old and has shown a fatherly interest in two or three generations of young doctors. His book is well written, and as a history of an important time and region will interest many outside the coal-fields.

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Original Articles.

CÆSAREAN SECTION VERSUS SYMPHYSEOTOMY, WITH THE REPORT OF CASES.[1]

BY EDWARD P. DAVIS, A.M., M.D.,

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ANTISEPTIC symphyseotomy has been practised sufficiently long by American operators to afford experience regarding the indications for this operation and its results. The continuous study of the conditions which render patients aseptic, or which predispose to septic infection, is constantly adding facts useful to obstetric operators in choosing an operation. Hysterectomy has been so far perfected, with the aid of the Trendelenburg posture and by recent experience, that Cæsarean section has been advantageously modified by modern hysterectomy. It seems possible, then, in view of these facts to state more definitely the grounds upon which Cæsarean section or symphyseotomy is to be chosen, or declined. During the past few months I have had occasion to deal practically with this question, and offer for your discussion the following cases and the deductions which to my mind they justify:

CASE I.—B. F——, colored, aged twenty-seven, married, primigravida. Applied at the Out-Patient Department of the Philadelphia Polyclinic, requesting attendance at her home for her approaching confinement. Her name and address were taken, but she failed to return for an examination of the pelvis made whenever possible in pregnant cases. On February 13th one of the externe physicians of the Polyclinic was summoned by the patient, and found her complaining of bearing-down pains at irregular intervals. Her confinement was expected about February 20th. On examination, the fundus of the uterus was half-way between the umbilicus and the ensiform cartilage; the back was toward the mother's right side, the head was at the brim of the pelvis, but was not engaged; fœtal heart-sounds were 145; the patient was very small, slender, the vulva and vagina being small and ill developed. Vaginal examination showed the cervix soft and nearly obliterated; the os was dilatable, the pains having apparently little effect upon it. As the patient was excessively nervous, potassium bromide was prescribed, and she was instructed to send for the physician when labor pains became stronger. On February 20th, a week after the first visit, the same physician saw the patient, finding her in true labor. Expulsive pains began the night previous, and had been half an hour apart. Directions were given that the bowels should be moved, a bichloride vaginal douche administered, and instructions were given to send again for the physician when expulsive pains became strong. At 7 A.M., on February 21st, the physician in attendance found her with strong expulsive pains occurring every three or four minutes. The os was the size of a dollar; the membranes were unruptured; the occiput was anterior and toward the right side. Strong uterine contractions continued for two hours, when they began to grow weak. Whiskey and quinine were administered, when the pains became stronger; the head partially engaged, but made no progress. Dilatation became complete, and the membranes ruptured. At 11 A.M. slight hemorrhage occurred without the descent of the head. Dr. W. H. Wells, Instructor in Obstetrics in the Polyclinic, was then summoned, and upon measuring the pelvis found its dimensions to be as follows:

	Ctm.
Anterior superior spines	22
Crests	23½
Trochanters	27½
External conjugate	19

An attempt was made for several hours to secure engagement of the head by placing the patient upon a padded pail, the only substitute for a confinement-chair which the patient's room afforded; this posture, with suprapubic pressure, failed to secure engagement.

Under ether, a cautious attempt was made to secure engagement by the use of Simpson's forceps, accompanied by suprapubic pressure; this attempt failed, and I was summoned to see the patient. I found her, at six in the evening, in fair condition, complaining of excessive pain occasioned by very strong uterine contractions. The strength of these contractions was sufficient to occasion fear lest rupture of the uterus should supervene. The patient's pulse was good, the fœtal heart-sound was slow, and seemed intermittent. On vaginal examination, a very large caput succedaneum was present; the vertex presented, and was turned toward the right side of the pelvis, the head not having engaged. Suprapubic pressure caused the anterior parietal bone to rotate downward, but failed to secure engagement. There was almost constant oozing of blood from the vagina, which gave rise to the suspicion of a low attachment of the placenta, although vaginal examination failed to reach the placenta. After the administration of a hypodermic injection of morphia, the patient's pains became slightly less violent, and the fœtal heart-sounds were stronger and ceased to intermit.

As the patient had but one small bed-room, and an insufficient supply of hot water was obtainable, I directed the husband to take her in a cab to the Polyclinic Hospital. On arriving at the hospital at 8 P.M., the fœtal heart-sounds were sufficiently good to justify an attempt to save the life of the fœtus. Symphyseotomy was chosen, because the disproportion between the head and the pelvis did not seem so great as to be insurmountable by this operation. Symphyseotomy was readily performed by suprapubic incision, a sound being held in the urethra, and the urethra drawn to one side by Dr. Wells. Upon opening the symphysis, the two halves of the pubic-joint separated an inch and a half, the head immediately descending to the pelvic floor. The child was extracted with Simpson's forceps, asphyxiated, but resuscitated. The child's head measured as follows:

	Ctm.
Occipito-frontal	13
Suboccipito-bregmatic	11
Occipito-mental	14
Maximum	15
Bi-parietal	11
Bi-temporal	9
Trachelo-bregmatic	10

Attention is called to the bi-parietal diameter and also the suboccipito-bregmatic, both of which were

[1] Read by invitation before the Section on Obstetrics, New York Academy of Medicine, April 25, 1895.

considerably larger than in the average fœtal head. The placenta was found, as diagnosticated, attached to the border of the lower uterine segment posteriorly.

It was removed, the uterus douched with creolin and tamponed with iodoform gauze. A slight laceration of the pelvic floor in the median line occurred, but it was not thought justifiable to delay to close it. The symphyseotomy wound was tamponed with a strip of iodoform gauze, and closed, with the exception of the lowest suture, which was inserted, but left untied. The urethra was patulous, and although the anterior vaginal wall had sustained injury by being drawn against the cut ends of the pubic bones, still the anterior vaginal wall had not been perforated. The usual dressing after symphyseotomy, and a strong band of adhesive plaster eight inches wide placed about the trochanters, were applied. During the first twenty-four hours after the operation the patient was unable to empty the bladder, and several attempts were made by nurses and residents to pass a catheter. These attempts were not successful, and accordingly, twenty-four hours after the operation, as the parts were excessively sensitive, although not swollen, the patient was partially anæsthetized with ether, and the catheter passed by Dr. Wells. The urethra was found lower down and to the left of its normal position. It was uninjured. It was noticed at this time that the tip of the finger could be passed into the symphyseotomy wound through the anterior wall of the vagina. Considerable oozing of blood occurred from a small vessel in the vaginal wall, which required the application of a ligature. The vagina was tamponed with iodoform gauze after the intrauterine tampon had been removed. The vagina was thoroughly douched and an antiseptic vulvar dressing replaced. During the night following the patient passed her urine spontaneously. Her temperature was 100.2° F.; pulse, 110; respirations, 26. The lochia was scanty, but was bloody and without odor. The lower portion of the abdomen was slightly distended. The patient, however, continued to be excessively restless, suffered from abdominal distention, although her bowels were moved thoroughly by enemata, calomel, and salines. Her temperature did not exceed 102° F., and remained between 101° and 102° F. The secretion of milk did not occur, the patient's strength failed, and she died on the afternoon of the third day following her delivery. Her child survived, and was given to the care of her relatives.

A post-mortem examination was made a few hours after death, and culture media were inoculated from the vagina, from the symphyseotomy wound, from the abdominal cavity, and the uterus. The abdomen was distended and tympanitic. Upon opening the peritoneal cavity, sero-purulent fluid was found in its lower portion. No adhesive inflammation was present. The cavity of the uterus measured five inches in length. The symphyseotomy wound presented no evidence of inflammation. The cavity of the uterus was normal, the placental site situated in the lower uterine segment on the right side. A small fibroid was situated in the posterior wall of the uterus. No evidence of inflammation or suppuration was found about the vagina or the symphyseotomy wound. The two connected by an aperture admitting the tip of the index finger. The intestines were distended with gas, but contained but little fecal matter. The anterior surface of the bladder was injected, and seemed in the first stage of inflammation.

The tubes inoculated from the body of this patient were sent to Dr. D. B. Kyle, Instructor in Bacteriology in the Jefferson Medical College, for examination. The report from this examination showed streptococci and staphylococci from the vagina and from the uterus. No cocci were found in the peritoneal cavity, but the bacillus coli communis was present. An examination of the patient's urine, taken shortly before her death, revealed nothing of pathological significance.

The infection and death of this patient after symphyseotomy, in view of the success which ordinarily attends this operation, are not at first sight readily explained. Those who had to do with the patient are accustomed to practise antiseptic precautions which are successful in other cases. During the first part of her labor she was under the care of a negro nurse or midwife, who had no knowledge of antisepsis. The responsibility for her infection must primarily rest with the operator, but the variety of infection found in the abdominal cavity is of more than common interest. While we are familiar with the fact that the bacillus coli communis may infect the abdominal cavity, our attention has been recently called by Walthard[1] to the fact that streptococci and other germs found in the vagina before labor do not become virulent and capable of producing septic infection, except in cases where the resisting power of the tissues is lowered by prolonged and difficult labor, by operative injury, or by debilitating and exhausting disease. The injury of the anterior vaginal wall which this patient sustained has occurred in the experience of others, and need not necessarily have led to infection. The occurrence of this injury is best explained by referring to the unusual width of the fœtal head, 11 ctm., instead of 9½ ctm., the normal. The occiput was delivered anteriorly, the head putting the vagina upon the stretch, and bringing the anterior vaginal wall strongly up against the two halves of the severed pubic-joint. It is difficult to see how such injury can be avoided in patients in whom the vagina and vulva are but little elastic, or very poorly developed. Negro children often show unusual breadth of skull and bi-parietal diameter in the skull above the normal size.

In considering this case, I have been impressed by the diminished power of resistance which a young and ill-developed woman possesses when in prolonged and impossible labor. The case has been to me a practical demonstration of Walthard's investigations, which show that although antiseptic measures ordinarily successful be carried out in such a case, germs either present in the vagina during pregnancy, or introduced by the obstetrician or his assistants during labor, become actively virulent in such a patient. No way readily suggests itself by which a large head can be extracted through a small and undeveloped vagina after symphyseotomy without injury to the vagina more or less extensive. This fact leads me to believe that in choosing symphyseotomy, the obstetrician must study carefully the size and elasticity of the cervix, vagina, and vulva, as well as the dimensions of the pelvis.

In connection with this subject, attention is drawn to the interesting paper of Audebert in the *Archives de Toxicologie*, No. 2, 1895.

Case II.—E. R——, colored, aged eighteen, a small, ill-developed woman, pregnant, was admitted to the Philadelphia Hospital during the past winter. In the month of February my attention was called to her by the resident staff, her diminutive size suggesting a possibly difficult labor. Her father, mother, several sisters, and a brother had died of tuberculosis. She was illegitimately pregnant, and without friends. Upon examination, March 8, 1895, the breasts were large and well developed. The fundus of the uterus was midway between the umbilicus and the ensiform cartilage. The fœtus was in breech presentation, the back to the mother's left side. Her height is 4 feet, 8 inches. The patient's pelvis measured:

	Ctm.
Iliac spines	23
Iliac crests	24
External conjugate	17
True conjugate	7½
Right diagonal	21
Left diagonal	20
Trochanters	29

Fœtal heart-sounds, 160

[1] Archiv für Gynäkologie, Band 48, Zweites Heft, 1895.

The patient's general condition was fairly good. As complicated labor was expected in her case, she was transferred to the Maternity Pavilion, where frequent examinations of her urine were made, where she was given warm baths frequently, and put in good condition for any operative procedure which might become necessary. On March 28th she was examined under ether, the head being found to present, when, by suprapubic pressure, the head was made to partially engage in the brim of the pelvis. It did not, however, descend, but upon firm pressure the anterior parietal bone rotated downward and backward, the head remaining at practically the same level above the pelvis. It was thought best, as the patient was near the termination of her pregnancy, to induce labor, with the hope that she would bring the head into the pelvis by uterine contractions. At 11 A.M., March 29th, induction of labor was begun by a bougie. Pains began shortly afterward, three minutes in length, occurring frequently. In the evening, the bougie, which had been forced out, was replaced, and the vagina tamponed with gauze.

March 30th, 9 A.M.—A finger could be inserted within the os, the cervix being obliterated, the head could not be felt by vaginal examination, but remained freely movable above the brim of the pelvis. At two in the afternoon, the patient having been in labor twenty-seven hours, my colleague Dr. Hirst was summoned in consultation. The patient was so restless that a vaginal examination could be made with great difficulty, not only from her resistance, but because the vagina and vulva were so small as to make a thorough examination almost impossible. Dr. Hirst concurred with me in the opinion that delivery by abdominal incision offered the best chance to mother and child. In consideration of the patient's tuberculous family history, her friendless condition, and illegitimate pregnancy, I decided to make subsequent impregnation impossible by removing the uterus, tubes, and ovaries. The patient was removed to the clinical amphitheatre of the hospital, where cœliotomy was performed with the kind assistance of Dr. Hirst. The membranes were unruptured, the placenta was in the line of incision through the uterus. The child was readily extracted in the usual method of performing Cæsarean section. The broad ligaments were then ligated, the uterine arteries ligated, the uterus amputated at the cervix, the edges of the stump brought tightly together by a continuous fine silk suture, the stump dropped, the abdomen being closed without drainage. The child inspired liquid at the time of birth, and was partially asphyxiated, but revived.

With the exception of rapid pulse during the first week of the puerperal period, the mother has done well. The dressing applied at the time of operation was removed fifteen days after the operation. Union had occurred by first intention; the stitches were taken out and the wound redressed. The patient has had an abundant supply of milk, and has nursed her own child and assisted in furnishing nutriment for another as well. The measurements of the child's head were as follows:

	Ctm.
Bi-temporal	7½
Bi-parietal	8½
Occipito-frontal	11½
Occipito-mental	12½
Trachelo-bregmatic	10
Occipito-frontal circumference	32
Fronto-bregmatic circumference	29
Occipito-mental circumference	26½
Length	42½
Weight when born	4 lbs.
Present weight	4 pounds, 15 ounces.

It is evident from a comparison between the size of the mother's pelvis and the measurements of the child's head that the method of delivery chosen was based upon the relative indications. The indication for delivery by cœliotomy arose, in my judgment, not simply from the small size of the mother's pelvis, but from her ill-developed birth-canal, and from her failure to bring the child into the pelvis by spontaneous labor. When I first saw the patient, it seemed to me that in all probability she could deliver herself with, at most, assistance by forceps and double episiotomy to permit the extraction of the child. Her failure to bring the head to engage, and the failure of labor pains to cause dilatation and to initiate the normal phenomena of labor, seemed to me to indicate that the best results for mother and child would follow prompt delivery by surgical methods.

The consideration of this subject cannot be complete without reference to the permanent results of Cæsarean section and symphyseotomy. The fact that the Sänger Cæsarean operation leaves the patient exposed to subsequent pregnancy, and a possible repetition of the Sänger operation, is brought forcibly to my mind by a patient upon whom I operated by the Sänger method a year ago. As she is a married woman, and no request was made that subsequent impregnation be prevented, the Sänger method was chosen. She and her child made a good recovery, but her disappointment and fear upon finding herself again pregnant lead me to question the wisdom of thus allowing her to be exposed to the dangers of a second operation. Her present pregnancy has been uneventful, and can of course be terminated by induced labor, with the possibility of securing a living child. She stated that during the first part of her present pregnancy she suffered from distress caused by the adhesion of the uterus to the anterior abdominal wall, but as pregnancy progressed that has grown less.

The permanent results following hysterectomy upon the pregnant womb must be essentially those which follow the same operation for other conditions. Delivery by cœliotomy, followed by hysterectomy, must be considered preferable to the Porro operation in the more speedy convalescence of the patient and in her subsequent condition. As regards the permanent results of symphyseotomy, I have had under observation for a year two women and their children whom I delivered by symphyseotomy. In both cases the pelvis has been several times examined by an orthopedic surgeon and myself, with failure to find any abnormality in either case. So far as the pelvis is concerned, the results of the operation in these cases have been entirely satisfactory. In one case, a poorly developed young woman with a small birth-canal, thickening of the anterior vaginal wall below the urethra called for anterior colporrhaphy, which relieved the irritable condition of the urethra.

In conclusion, experience in five symphyseotomies leads me to believe that the operation is a child-saving one, as in these cases the children have been saved, when otherwise no alternative remained but craniotomy, or delivery through the abdomen. One of these cases was taken from a tenement-house, suffering with pneumonia, and survived the operation two days. Bacteriological examination of her genital tract and the symphyseotomy wound showed no infection. The case reported leads me to believe that symphyseotomy is most successful in women not weakened by prolonged labor, in women where slight contraction of the pelvis exists, where no great disproportion in the size of the head and pelvis is present, and in women in whom the vagina and vulva are well developed and distensible. The Sänger operation is indicated where marked disproportion between the head and pelvis exists, as shown by the failure of the head to engage; where the vagina and vulva are poorly developed and not distensible, and where the patient is a married woman, and is willing to run the risks of further impregnation. Where a patient is without home and friends, illegitimately pregnant, of poor physical constitution and in danger of further illegitimate pregnancy, delivery by cœliotomy, followed by hysterectomy, is advisable.

SOME CLINICAL FACTS ABOUT YELLOW FEVER.

By J. EDWARD STUBBERT, M.D.,

CHIEF SURGEON NICARAGUA CANAL.

DURING the past few months an epidemic of yellow fever has visited San Salvador, and the following clinical facts may be of interest, being in some instances so diametrically opposed to the written history of the disease.

The habitat of yellow fever is popularly supposed to be confined to the Atlantic coast of Central America, the waters of the Gulf of Mexico, Western Mediterranean, etc., in the zone between 42° north and 35° south latitude; and Macdonald says (Reynolds system), "Never, except as in a very few instances transiently conveyed by infected ships, has it been seen on the Pacific."

Natives of Central America will tell you, however, that not only is the disease well known and of frequent occurrence on the Pacific coast, but that at regular cycles it visits the cities of the interior in epidemic form. *A propos* of this, I have been informed that some twenty years ago yellow fever swept through this country, carrying death through many inland towns at a considerable elevation above the sea.

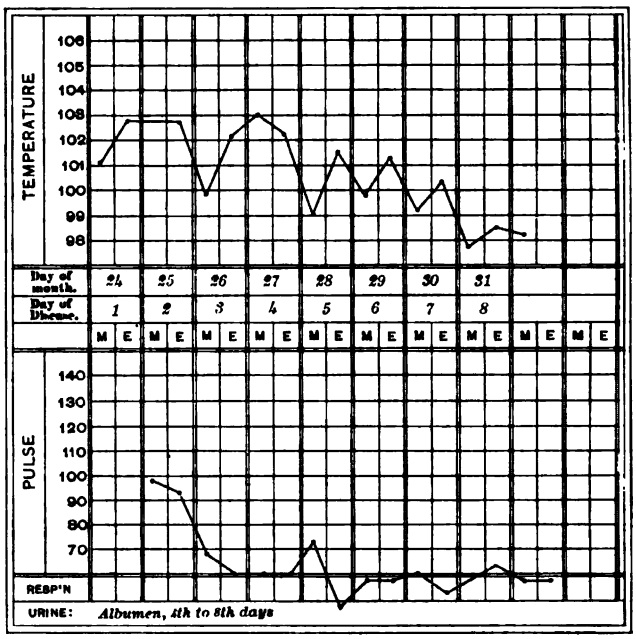
In February the writer was suddenly summoned on board the U. S. S. Ranger, whose surgeon had died of "yellow fever, contracted in the Pacific port of Amapala, Honduras," where the disease was reported to have existed in epidemic form the previous year.

The following July I was called to the U. S. S. Bennington, lying at La Libertad, San Salvador. Yellow fever was then reported to be present in the port, and Captain Thomas was very anxious to learn the nature of the disease on his ship. The surgeon, Dr. Hibbett, and several of the wardroom officers and crew were ill. These cases, however, were easily diagnosed as malarial remittent fever, that of Dr. Hibbett being of the pernicious icteric variety. On the following day eight new cases developed and the ship was ordered home. I have since received a letter from Surgeon Hibbett, citing a case which developed shortly after leaving the port, and which I judge to have been a true case of yellow fever.

At about this time teamsters plying their trade between La Libertad and San Salvador, the capital, a city of about thirty-five thousand inhabitants, and situated two thousand two hundred feet above the sea, began to be stricken with the disease on the road, and were brought into the city to be distributed as so many foci of infection in their several homes. The disease now spread rapidly among the poorer classes of the native population, and erelong made its appearance among those of higher social rank. The members of the foreign colony naturally contracted it more quickly than natives of similar social status, and almost invariably the type in their cases was more severe. About seventy-five per cent. of the foreigners attacked were my patients, and it is from the record of these cases I have drawn the clinical facts to be noted.

I have gone thus fully into the question of the geography of the disease as so much has been said and written about its confinement to the Atlantic coast of these Central American countries; and I wish to state that during all the time of active work on the Nicaragua Canal we did not have on our hospital rolls a single case of yellow fever; that, also, careful research on my part failed to discover the record of a case of yellow fever at any time on the Atlantic coast of Nicaragua; that the only authentic cases that have been noticed in that country occurred in Corinto, a Pacific seaport, and in Chinendega and Leon, two cities on the Pacific side, closely connected with Corinto by rail. This fact, that never has a case of yellow fever been known to occur anywhere along the proposed Nicaragua Canal route, is a matter of great interest and encouragement to Americans interested in that great enterprise.

Invasion.—A great difference of opinion exists regarding the manner of contracting this disease. Native physicians will visit a dying patient, in a room reeking with the odors of black vomit and intestinal hemorrhages, arrayed in evening dress, and from there go, without taking any precautions, directly to a crowded ball-room. While this seems to me an unjustifiable risk to take, nevertheless the disease has not, as far as I know, been traced in its origin to exposure of this sort. On the other hand, at least seventy-five per cent. of those persons who, in the capacity of nurses, were constantly exposed to the air of the sick-room fell victims to the disease within ten days from the first day of exposure. Most of the cases developed about five days after exposure to the fumes of black vomit, and I have not on record any case that was contracted by proximity to a patient before the appearance of vomiting or diarrhœa.

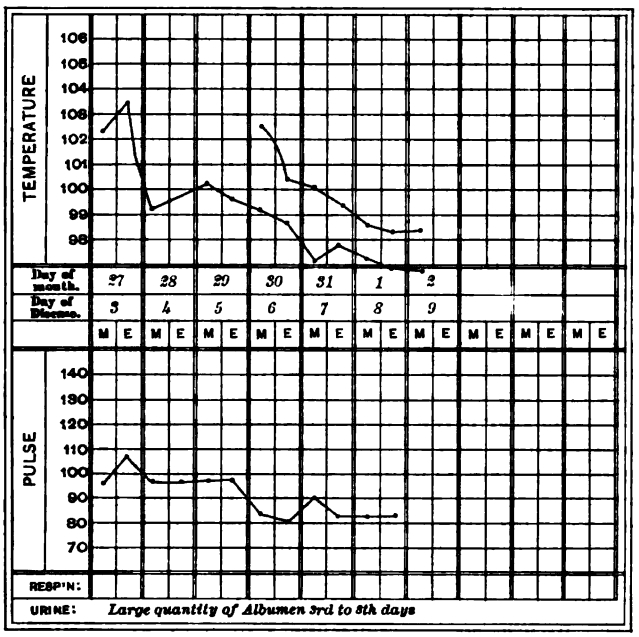


Case of Yellow Fever, Icteric Variety, showing a Remarkably Low Pulse.

So much for the cases where origin could be directly traced to personal exposure to an atmosphere undoubtedly infected with disease germs. These facts seem to bear out the opinion expressed at the Quarantine and Sanitary Convention at New York, 1859, that short visits to yellow fever patients are apparently devoid of danger to those making them; but on the other hand they contradict the verdict of another high authority who states that "yellow fever cases need not be isolated, but may be placed in public hospitals among other patients." The fact of the portability of the disease has been conclusively proven by this epidemic, but the manner of such transfer still remains doubtful. The fact, however, that the disease appeared in different cities on a route of continuous travel from the first infected port shows the necessity of strict quarantine.

Symptoms.—Few cases were ushered in by the historical chill, but all were preceded by rigors of more or less severity. In most instances, the facial expression was characteristic—congestion of whole countenance and suffusion of the eyes, accompanied with pain in the back and limbs and very severe bilateral frontal and post-orbital headache. The initial temperature was usually about 102° F., and the average maximum, less than 104° F., was reached generally within the first six hours of the disease. The remission occurred in four cases on the third day, in two on the fifth, in all others on the fourth, and lasted, on an average, six hours. The average length of the third stage was three days. Black vomit appeared in most cases as early as the third day, but nausea was present from the incipiency of the

disease. Decrease of the amount of urine was present on the second day in nearly every case, and albumin appeared on the third or fourth day. It was found in large quantities in about ninety-eight per cent. of the cases under observation, and was absent in but two or three instances. In most cases the albumin disappeared suddenly with the fall of temperature during the third stage of the disease, but in exceptional instances traces remained for some time during convalescence. Jaundice was by no means a constant symptom, and in no case was it present before the fifth or sixth day.



Case of Yellow Fever, Algid Variety, showing Difference between Rectal and Sublingual Temperatures. In this case symptoms of albumin were very marked, and from the sixth day the pulse was intermittent. Patient recovered.

Constipation was found in most cases all through the disease; in a few diarrhœa supervened during the third stage, and in one case, where intense general jaundice was present, the defecations were pasty and clay-colored. In at least ninety-five per cent. the mind remained clear until the end of the disease, whether that end was reached in death or recovery. The generally noted slow pulse was present in all cases excepting one. A few were marked by great depression, intermittency of the pulse, algid surface, and during the third stage a great difference between sublingual and rectal temperatures, that in the rectum being the higher, registering in one case 102⅘° F., while the sublingual record was 99⅕° F. In the MEDICAL RECORD, volume xxx., page 263, in an article upon "Malarial Hæmaturia," I called attention to the great confusion in diagnosis in our Southern States between pernicious malarial fever, especially of the icteric variety, and yellow fever. There is really very little difficulty in differentiation, if we remember that in pernicious fever the black vomit appears within the first thirty-six hours, albumin is almost never present, hæmaturia is a prominent symptom, the temperature and disease are both markedly amenable to hypodermic injections of quinine, and there is no pathognomonic stage of remission. Again, pernicious malarial fever usually attacks those who have been the subjects of repeated attacks of malarial diseases. The pulse in pernicious fever is commensurate with the temperature, and the latter often reaches 106° and 107° F. In yellow fever black vomit is rarely seen before the third day. Albumin in the urine is almost a pathognomonic symptom; hæmaturia is, I believe, never seen, excepting in the last stage of the hemorrhagic variety. Quinine has no effect whatever on the duration of the disease, the pulse is abnormally low, the temperature rarely exceeds 103.5° F., and chronic malarial infection of a mild character appears to render one less liable to contract the disease.

Treatment.—Here in San Salvador we have had the opportunity of comparing the treatment of the American, German, and French schools (most of the native physicians being thoroughly imbued with the tenets of the last-named system). Practical results are decidedly in favor of our American method of treatment, the death-rate having been only eleven per cent. among those treated according to the teachings of Professor Loomis and other well-known American authors. To my mind there is no doubt at all as to the beneficial effects of quinine administered during the early part of the first stage; not that it cuts short the course of the malady as in pernicious fever, but because it appears to prevent dangerous exacerbations of temperature, and to render less severe the third stage. Owing to the great danger of suppression of urine, it is my practice to administer nitro-glycerine in $\frac{1}{100}$ grain doses, and after a free flow of urine is established to administer digitalis and salinic diuretics according to circumstances. Vichy and milk in large quantities are used by all schools here. Kola is strongly advocated by the French and German physicians, but I have found it of no special value, and very distasteful to the patient. When vomiting begins, the most successful treatment seems to be a full dose of ipecac, followed by large quantities of tepid water, in turn followed by a hypodermic of gr. ⅛ of the sulphate of morphine, to quiet the stomach. When albuminuria appears, the patients become excessively nervous, throwing themselves constantly from one side of the bed to the other, necessitating very small doses of morphine. I have never found it necessary to administer more than six doses of morphine throughout the whole course of the disease, or to produce emesis by ipecac more than twice. Cracked ice and carbolic acid in peppermint-water are generally sufficient to control the nausea; but where they are not, in spite of the fact that the use of opiates is so strongly condemned, I would always administer them. Enemas of brandy and carbolic acid solution for stimulant and antiseptic effects have proved of great value.

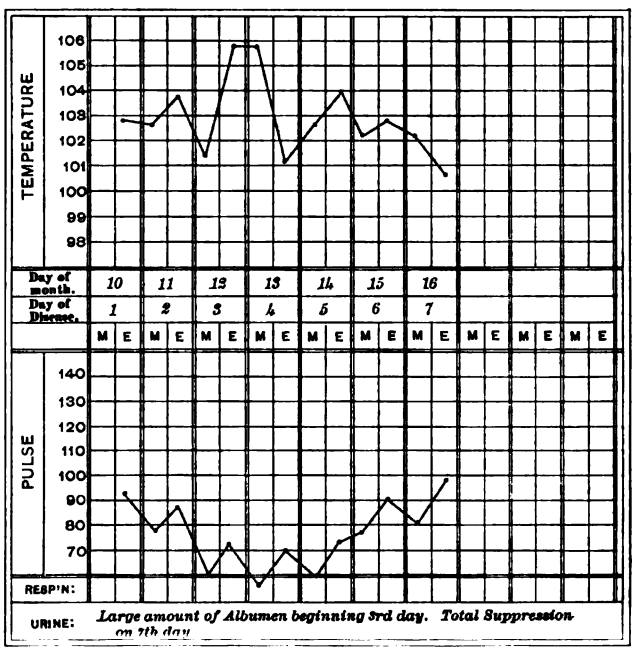


Chart showing the Markedly Depressed Pulse in a Case of Yellow Fever of the Hemorrhagic Variety. Patient died on the eighth day.

Unfortunately, to my mind, so much has been said about yellow fever being a self-limited disease, requiring more than all else good nursing, that it is no uncommon thing to see cases "left to nature" until the critical moment has passed. The treatment, to be successful, must be symptomatic, prompt, and energetic;

and the sheet-anchors are free catharsis, diuresis, and diaphoresis at the beginning, with large doses of quinine hypodermically. After that mild catharsis and free diuresis throughout the disease, emesis, when the vomiting is turning from white to yellow, morphine when necessary to control vomiting or to overcome extreme nervous jactitations, and finally cardiac stimulants when indicated, generally from the beginning of the second stage.

Prophylaxis has demanded the attention of Dr. Gasteazoro and myself, but we have not been able to arrive at any satisfactory conclusion. Perhaps salol in doses sufficient at first to produce optical symptoms and green urine, and subsequently in daily doses of five grains, accompanied by an open condition of the bowels, will be sufficient protection. There seems to be good ground also for the weekly exhibition of small doses of calomel.

THE TREATMENT OF TYPHOID FEVER.

By A. G. HENRY, M.D.,

CORTLAND, N. Y.

I WILL preface my remarks on the treatment of this fever by stating that the mortality ought to, and will, if properly managed, be less than that from almost any other contagious disease. It is a disease that is simple in treatment, easily controlled, and one in which the death-rate should never reach five per cent. In my own practice it is much less than that.

We all know the premonitory and initial symptoms of this fever, so graphically described by Da Costa. Usually when called to a case we will find a temperature of from 100° to 104° F., depending somewhat on the length of time since the sickness began as well as the abruptness of the attack. We will also find that in a few cases looseness of the bowels with tympanites has already supervened. A severe headache is almost always present the first few days or week of the sickness. About the first thing I see to when called to attend a case of typhoid fever is to have the patient removed to a fair-sized, well-lighted room—one in which an abundance of outside air can be introduced at first hand—and to put him in charge of a competent and trustworthy nurse, with injunctions that no one excepting those who are to care for him be permitted to see him. I always tell the patient the nature of his illness, that his fever will probably run from two to three weeks, but that he will feel better inside of a week, and that he will most certainly recover. I think it best at the first visits to impress upon the mind of the patient that his business for the next few weeks is to be entirely devoted to getting well, and I always insist that the sick-room shall be kept quiet, as free as possible from the disturbing influences of the noises of the house; that he shall not try to keep track of his pulse or temperature, or be told any news regarding the doings of his friends or neighbors or the community at large.

Of course the doctor, as well as the nurse, may tell him from day to day that he is doing well, or that he is getting better, as the case may warrant.

Now as to the matter of diet. Diet with me means the withholding of all food of any description for from four or five days to two weeks. The length of time food should be withheld will depend principally upon the behavior of the fever and the condition of the bowels. Usually within from three or four days to a week from the time we first see the patient—if all food is withheld—the fever will have begun to decline, the headache will have disappeared, and then, if there is no looseness of the bowels or tympanites, a small amount of nourishment can be safely given. I commonly give milk, beginning with one tablespoonful at a time, at 6 A.M., 12 M., and 6 P.M. I increase the amount by one tablespoonful a day until a half-teacupful is taken at a time. No more than the last-named amount should be given until several days after the last vestige of the fever has disappeared, when other articles of food may be gradually substituted for the milk.

Under no consideration should food be given oftener than three times a day, and if there should be a relapse or an increase of fever, or a return of bowel troubles, the milk should be at once discontinued until the patient is on the mend again. The milk should be boiled about ten minutes ere giving.

Where there is a dislike for milk, or when it does not seem to agree, I give liquid peptonoids, beginning with two teaspoonfuls at a time morning, noon, and night, and increase by one teaspoonful a day until two tablespoonfuls are given at a time.

As to clothing, the patient should be robed in but a single garment—a night-shirt of plain unstarched cotton or linen—and this should be changed one or more times a day, depending largely upon the amount of perspiration present.

The bed-linen should be changed every day. The nurse should see that the feet and hands of the patient are always warm, and he should be covered but slightly, especially during the height of the fever. His wishes in respect to the amount over him may usually be safely consulted.

An abundance of fresh outside air should be admitted to the sick-room at all hours of the day and night.

Now as to the use of water as an outside remedy. Whatever merits the tubbing system may have, it seems impracticable to carry out the treatment in but few cases in private practice, and in any event I think as favorable results may be attained by other methods of procedure. The patient should be bathed every two to six hours in water of a temperature somewhere from 75° to 90° F. The hotter he is as a rule the colder should the water be. Particular attention should be given to the back. The spine should be well wetted its whole length, for the cooling and tonic effect of the water.

When we come to the subject of medication I am free to state that I think almost as much harm is done by the prevailing drugs administered as by the faulty way of giving food. If there is anything more destructive than quinine in its effects on the organism in general, and the nervous system in particular, when given for its antipyretic action in a case of typhoid fever, it is the coal-tar products. But some one has remarked—and it seems to be about the only redeeming feature of the last-named remedies—"They sometimes enable the patient to die with normal temperature."

Now, although I doubt not that fully nineteen out of every twenty would recover under the treatment outlined above, yet I think there are a few medicines, given when indicated for their direct effect, which are decidedly beneficial. Foremost among these is aconite in small doses. But the doses must be small—not to exceed from five to ten drops of the tincture in a tumblerful of water, of which a teaspoonful may be given once an hour during the waking hours of the patient. Aconite in these doses will modify the catarrhal trouble of the lungs which is almost always present; it is an excellent stimulant to the capillary circulation of the skin, tending to keep it moist, as well as a tonic to the heart's action. At the beginning of the illness or during what may be considered the congestive stage of the fever, usually accompanied by persistent headache and sometimes commencing tenderness in the iliac region, I think benefit is attained by the use of belladonna. This may be added to the aconite, ten drops to the tumblerful of water, and given every hour. I think it well to continue the belladonna until the headache has disappeared and the tenderness in the bowels is relieved, or until there is a decided looseness of the bowels, when it should be dropped. Of all the remedies I have ever used for diarrhœa and the tympanites usually accompanying it I like baptisia tinctorium the

best—five drops of the fluid extract added to the tumblerful of water containing the aconite. I have used no other remedy for this symptom for years. I use no outside applications whatever for the bowel trouble.

One of the most important things in the treatment of this fever is yet to be mentioned—the administration of large quantities of pure, soft water. This may be given cold or hot, as best suits the whim or fancy of the patient. Water is the absolutely essential thing in the successful management of typhoid fever. I always insist on patients taking it often and in large quantities. When they do not seem inclined to take enough voluntarily I have the nurse give from one-third to one-half of a teacupful every hour when the medicine is administered.

We occasionally find in persons past middle life those suffering from organic heart disease. These have to be watched closely, especially toward the latter part of the fever. If in such we discover evidences of heart-tire digitalis in from six- to eight-drop doses of the tincture may be given every six or eight hours. If relapses occur they are to be treated as the original attack.

In conclusion I would state that in a general practice extending over a period of twenty-one years I have had but two cases of hemorrhage of the bowels, neither proving fatal; and since August, 1888, or since I adopted the method of feeding and general treatment described above, I have not had a single case of this fever which was fatal. I have treated from fifteen to twenty-five cases each season.

Clinical Department.

AXILLARY ANEURISM, WITH SUCCESSFUL LIGATION OF THE SUBCLAVIAN ARTERY.[1]

By W. E. WATERS., M.D.,

SURGEON, U. S. A., COLUMBUS BARRACKS, O.

Corporal Charles S——, Company K, Seventeenth Infantry, on duty with Recruit Detachment at Columbus Barracks, O., is forty-three years of age, and has been in the army continuously for eighteen years. He was admitted into hospital December 3, 1894, with aneurism of the left axillary artery, which was situated principally in the second part of its course, but extending beyond the border of the pectoralis minor muscle into the axilla.

The patient was a man of large physique, and general good health, except a mild attack of subacute rheumatism, for which he was not taken on sick report. He has had no physical ailment for many years, until this aneurism appeared. He had been admonished of its presence, by more or less continuous pain, for two or three months, but did not apply earlier for medical treatment, as he supposed it was a rheumatic attack that would disappear without treatment. He was not conscious of the enlargement in the axilla, which had become a tumor measuring about an inch and a half, until it was discovered by the medical officer attending sick call. It had not interfered with the discharge of his duty as instructor of recruits, which duty required the frequent use of the shoulder-joint, in demonstrating the numerous motions in the manual of arms. He was not aware of the artery ever having been injured; he has had no history of syphilis, of gout, or of rheumatism, save the mild attack above referred to; was not of intemperate habits, nor was there anything in his physical condition pointing to the existence of an atheromatous degeneration, or any other disease of the arteries predisposing to aneurism.

The only circumstance in the life and habits of the patient suggesting an exciting cause of the aneurism that I could discover, after the closest scrutiny, was the very continuous exercise of drilling recruits, frequently requiring the extending of arms vertically above the head, causing tension of the arteries in the axilla.

The following is the surgical history of the case: December 3, 1894, he reported at sick call, complaining of pain in the axilla and in the arm and forearm. He was taken into the hospital, and an axillary aneurism unmistakably diagnosticated. There was not a common symptom absent, and it afforded a typical case for the study of an uncomplicated aneurism of the second and third portions of the axillary artery. After his admission the pain increased from day to day (except during a short time to be referred to hereafter), and soon extended to the hand, which became the most painful part, first involving the thumb, index finger, and middle finger—the parts supplied by the terminal branches of the median nerve—with its greatest intensity in the tips of the fingers. He described it as a "burning, stinging sensation," in contradistinction from the aching pain he had previously felt in the arm.

About this time, that is, ten days before the ligation of the artery, paralysis of the extensor muscles, deriving their nerve-supply from the musculo-spiral, was first discovered, with impaired power to extend the hand, and in a day or two thereafter the paralysis had become complete, with the typical "wrist-drop." At this time the loss of sensation, also in the back of the hand, was noticed. The flexor muscles of the forearm had but slight loss of contractility, while the paralysis of the extensors was complete. The treatment prescribed was rest in bed with restricted diet, and the administration of iodide of potassium, in half-drachm doses, combined with three minims of tincture of aconite, three times a day. Digital compression of the subclavian artery over the first rib was tried, and there was an unsuccessful attempt to make continuous pressure with a long rubber bandage extending over both shoulders and the perineum, as recommended by one of our Philadelphia surgeons. The already severe pain caused by the pressure of the tumor on the contiguous nerves precluded any attempt to make direct pressure over the aneurism.

The patient's irritable condition, arising from his unusual confinement—for he had always led an active life—and the pain he was constantly suffering, prevented any co-operation on his part in the mechanical method of treatment that was tried. He was given, nightly, a hypodermic injection of morphine and atropine, at first a quarter of a grain of the former, and 1 to 100 of the latter, but this was gradually increased to one-half a grain of sulphate of morphine and 1 to 50 of atropine. As a rule one injection at night was sufficient, but some days a second and a third in the twenty-four hours were necessary to relieve the intense pain.

A few days after the commencement of treatment there appeared to be a clot forming in the aneurism. A diminution in its size, and much less pain, offered a delusive hope of a cure. But the improvement was of short duration, and soon the tumor increased in size, with aggravation of all the symptoms. The more conservative treatment having failed it was decided to ligate the subclavian artery, in its third division, outside the scalenus anticus muscle. The patient was anxious to have the operation performed, notwithstanding he had been informed of its dangers.

On December 27, 1894, I tied the vessel in the part indicated, assisted by assistant surgeons Brechemin and Heyl, of the army, and Dr. Hamilton, of Columbus, O. The operation was performed with antiseptic precautions, in the usual manner, by an incision above the clavicle, from the outer border of the insertion of the clavicular portion of the sterno-cleido-mastoid muscle to the trapezius, just above its insertion. There was a little delay in finding of the artery

[1] A special report made to the Surgeon-General, U. S. A.

because of its unusually small size and feeble pulsation, but the operation was attended by no untoward circumstance, with a minimum loss of blood, and the division of a very few of the smaller vessels. The ligature used was the carbolized catgut furnished by the medical supply department of the army. The ligated artery was completely occluded, as determined by the cessation of pulsation in the aneurism and at the wrist, as well as the cessation of the bruit, which had been very distinct up to that time. The warmth of the hand and arm was maintained, uniformly and constantly, by enveloping them in thick layers of cotton wadding.

The wound of operation healed by first intention throughout, except where a roll of iodoform gauze had been inserted to promote drainage should suppuration occur. There was no rise of temperature, at any time after the operation, except for an hour or two, when it rose to 100° F., attributable doubtless to the ether intoxication, as the struggles of the patient were long and violent during the administration of the anæsthetic and also as he regained consciousness. After the operation the pain had so far subsided that for several nights the patient slept soundly without an anodyne. Unfortunately the "wrist-drop" continued, and there was a persistent numb, painful sensation in the hand, but none in the arm.

January 17th I commenced the use of a mild faradic current of electricity, to which the muscles of the forearm gently responded, more in the flexors than the extensors. A few days later massage was added to the treatment. The patient's general health has been good, and in suitable weather he has taken out-door exercise.

January 30th, resumed the administration of iodide of potassium in the doses given before the operation. There have been no objective symptoms of a syphilitic taint, but the tolerance of the iodide, in the earlier history of the case, suggested the possibility of such an infection; hence the resumption of the iodide, which was also indicated in promoting the absorption of the tumor. The advisability of a second operation for the removal of the tumor from the axilla, to relieve the paralysis, has been considered, but in view of the diminishing size of the tumor, of the nerves having adapted themselves to their new environment, and the slight improvement that has taken place (all considered in connection with the uncertainty of benefit arising from the operation, and the difficulties attending its performance), I decided not to operate.

Upon my recommendation the patient was sent to the Army and Navy Hospital at Hot Springs, Ark., where it is hoped that benefit may arise from the use of the waters, and a change of climate from the unusual rigorous weather of this locality, which has to a great extent prevented out-door life.

In a letter received on March 14th from the patient, written at Hot Springs, Ark., where he has remained since he left this place, he states that he is gradually regaining the use of the fingers and wrist-joint, and that the tumor in the axilla is diminishing in size.

COLUMBUS BARRACKS, O., March 15, 1895.

AMOUNT OF MORPHINE TAKEN BY HABITUES.

DR. J. P. KENNEDY, of Wingham, Ont., writes: "I have noticed in the recent numbers of the MEDICAL RECORD several articles on the maximum doses of morphine habitues. I may, perhaps, be permitted to report a case which came under my observation over a year ago. I. L——, a young man twenty-six years of age, apparently strong and vigorous, muscular system very fully developed, who used 60 grains per diem, hypodermically—30 grains night and morning. The patient desired to be cured of the habit, but complained of no ill effects from its use. I cannot think the case that Dr. Groom, of Iowa, reports very extraordinary; for although my experience with such cases is somewhat limited, yet I have met scores of cases using 30 grains per day."

PERMANGANATE OF POTASSIUM IN OPIUM POISONING.

BY J. G. HAYES, M.D.,

WILLIAMSBURG, MASS.

AT 8.40 A.M., on April 25th, I was called to see a man, sixty-five years of age, who had taken, with suicidal intent, one and one-half ounces of laudanum. He had taken the poison at 8.05 A.M., not having eaten anything since the previous evening. On my way from my office to the patient, which was only a short distance, I recalled to mind the "Report of Cases of Opium Poisoning Successfully Treated by Permanganate of Potassium" by Dr. William Moor, of New York, which I had recently read in the MEDICAL RECORD of March 2, 1895. Being somewhat interested in this subject I decided to try the above-mentioned treatment and to watch the result carefully. I found the patient at 8.45 A.M. walking back and forth in his room very much excited, but being an intelligent man he gave me definite answers as to the time he took the drug and the quantity. At this time his gait was becoming somewhat unsteady; eyelids drooping; pupils contracted to pin-holes; pulse, 85; respiration somewhat slow. I at once administered 30 grains of the sulphate of zinc in a glass of tepid water and injected hypodermically $\frac{1}{30}$ grain sulphate of atropia. There being no vomiting at the end of twenty minutes, I gave him a heaping teaspoonful of mustard in a glass of warm water and followed this with more tepid water. At 9.25 he vomited a little, but not half of the fluid he had just taken. This was one hour and twenty minutes after he had taken the poison on an empty stomach. At this time he was not able to stand without assistance, but he could answer questions and made an effort to walk, but his limbs would not support his weight.

At 9.30 A.M. the pulse was 85, weak and irregular; respiration, 12; countenance somewhat livid. Not being able to stand he was placed on a bed, and he became immediately unconscious, but he could be roused and would answer. Having procured a solution of permanganate of potassium, 1 grain to the drachm of water, and a hypodermic syringe of 1½ drachms' capacity, I injected 1 grain of the permanganate every half hour till 3 grains had been administered, beginning at 9.30 A.M. At 10 A.M. the pulse was 90 and respiration 10. At 11 A.M. the pulse was 100 and the respiration 6. The patient was in a profound stupor, from which it was impossible to rouse him. I injected 3 grains of the permanganate into the buttock. At 12 M. respiration was 5; countenance livid. Administered 3 grains. At 1 P.M. the pulse was 110, weak and irregular; respiration, 4 or 5 (9 in two minutes). Condition worse than one hour before. Again administered 3 grains, making in all 12 grains of the permanganate. At 1.30 P.M., respiration, 6. At 2 P.M., respiration, 10: At 2.30 P.M., respiration, 12. The patient could be roused so that he opened his eyes and scratched his face and answered questions. At 3 o'clock the man sat up in bed and called for a glass of water. He was allowed to sleep till 4 P.M. When he was roused he was perfectly conscious and was able to walk into an adjoining room without assistance. There was a good deal of inflammation of the tissues where the injections were made; otherwise the patient was all right the next day. I am very certain he took one and one half ounces of laudanum and that he was not accustomed to the use of the drug, but whether he survived as a result of my treatment or in spite of it, I am not certain.

Progress of Medical Science.

Pathology of Infantile Paralysis.—In a recent number of the *Wiener Klinische Wochenschrift*, Dr. E. Redlich publishes a contribution to this subject, the tendency of which is to support the view that in so-called acute anterior poliomyelitis the process is to be regarded, not as confined to the ganglion cells, but as an acute inflammation affecting chiefly the anterior horns of the spinal cord. The paper consists mainly in a description of the cord in a case which terminated fatally a few days after the onset of the symptoms. The patient was a child, aged five months, previously healthy, who became restless, with a high temperature (*The Lancet*). On the fourth day after the commencement of this illness, there was weakness of all the limbs, with loss of voice. Loss of knee-jerks, slight sensory impairment, difficulty in breathing, and transitory difficulty in swallowing were also present. The cranial nerves, except so far as was manifested by a doubtful unilateral weakness of the face, showed no alteration. There was slight feverishness. On the ninth day of the illness there was temporary cessation of respiration, which was repeated on the tenth day, and from which the child did not recover. An examination of the spinal cord showed the presence of an acute inflammatory process affecting the cord throughout its entire length. This process did not confine itself to the anterior horns, although these were chiefly affected. It involved also the remainder of the gray matter, and even the tracts of white matter, in which there were small foci of inflammation. The changes in the anterior horns were most intense in the lumbar enlargement, less so in the cervical swelling, and least of all in the dorsal region. The ganglion cells showed the marks of acute degeneration. Outside the anterior horns, in the posterior horns, in the central substantia gelatinosa, and in a part of Clarke's column, and also in the white matter—especially the lateral and anterior tracts—there were found small areas of inflammation. In the posterior columns only one such area could be discovered. These areas in the white substance seemed to depend upon acutely inflamed vessels, and although they were in the vicinity of the anterior horns they did not appear to be connected with them. The vessels outside the cord, also, especially the artery of the anterior fissure and its branches to the anterior horns, were similarly affected with acute inflammation. Similar foci of inflammation were found in the medulla oblongata and the basal structures similarly grouped around inflamed vessels, but the cortex cerebri seemed to be free from them. The peripheral nerves, especially the phrenic and inferior laryngeal, showed very severe degeneration, and the muscles showed evidences of fatty degeneration. It is, of course, quite open to doubt whether this case was really one of the ordinary type of infantile paralysis. The appearances in the cord suggested the presence in the blood of some toxic material affecting the vessels, and simultaneously or secondarily the structures also of the spinal cord.

The Diet of Epileptics.—The influence of diet upon epilepsy is a matter of peculiar importance in the treatment of the disease. In a certain sense epilepsy is always reflex. The starting-point of a fit must be looked on as an extrinsic irritation, and in many cases it arises from indigestion (*The British Medical Journal*). Errors in diet, however, probably influence epilepsy in other ways than this. The portion of food which is absorbed may be injurious, besides that which, remaining undigested, acts as an irritant; and there is a good deal of clinical experience in favor of supplying a minimum quantity of meat in cases of this sort, not on account of it producing indigestion, for it is often digested quite well, but because of its imagined effect in increasing the "irritability" of nervous structures—a somewhat hypothetical property, but one based on the same sort of rough observation as is the well-recognized relation between corn and skittishness in horses. The interest of this subject has led us to make inquiries as to the food given to the patients at the epileptic colony at Chalfont St. Peter, and by the courtesy of the secretary we have been furnished with the daily dietary for a fortnight. Breakfast was on each day the same, consisting of oatmeal porridge, with new milk or sugar, tea, and bread and butter. Dinner consisted of roast or boiled or hashed beef or mutton, with cabbages and potatoes, followed by a rice, sago, tapioca, suet, or jam-roll pudding. Tea was accompanied with bread and butter or dripping, or sometimes golden sirup, or currant-cake. Supper generally included some pudding, with milk and bread, varied occasionally with soup instead of pudding. On Fridays fish was given instead of meat. It must be noted that all the inmates are men. At the present time they are nearly all engaged in outdoor work for a considerable number of hours a day, which probably enables them to assimilate without difficulty a somewhat freer diet than would be possible in other conditions; and it is not improbable that the improved nutrition, due to the combination of active work with a dietary better than could be digested in a sedentary life, may be a not unimportant factor in relieving the disease.

Lesions of the Stomach.—According to Professor Hayem acute parenchymatous gastritis is a process beginning in the glandular elements, and in the pure form is independent of any leucocytic infiltration. The portion of the stomach first affected seems to be the cardiac, and thence the lesion spreads, with the result that the pyloric portion becomes completely changed, losing its distinctive character, and finally being indistinguishable from the cardiac end. He maintains that there are no special cells for the secretion of hydrochloric acid, and in support of this he points out that in the stomach of the new-born child the parietal cells are well developed, although gastric digestion is carried on without any hydrochloric acid being present. Again, he has found no increase of parietal cells in the adult stomach in cases of hypersecretion of this acid, but that in these cases the increase in amount of hydrochloric acid seemed to correspond with the transformation of pyloric into peptic glands, or, in other words, with the disappearance of the alkaline pyloric secretion. The debated question of the presence or absence of hydrochloric acid in cancer of the stomach has, according to the author, lost all interest. The state of digestion, he says, depends in cancer, as in any other gastric condition, on the condition of the gastric mucous membrane. Cancer is developed most frequently in hypopeptic or apeptic cases, and it is in such that free hydrochloric acid is absent, while histological examination of the stomach shows "atrophic gastritis." On the other hand, a hyperpeptic condition may exceptionally be found in persons suffering from gastric cancer. In such cases one would expect to find a different anatomical condition, and in such a case he quotes Lion as having found well-marked parenchymatous gastritis. Gastric ulcer, on the other hand, is most frequent in hyperpeptic cases, and the dominant lesion is a form of gastritis more or less parenchymatous in nature. The pathogenesis of gastric ulcer, however, is a very much more variable question than that of malignant disease.—*La Semaine Médicale.*

Artificial Light.—A Parisian opthalmologist says that the incandescent electric light is the least harmful to the eyes of all artificial light. Next comes the light of a good kerosene lamp, after that candles, and the worst of all is ordinary gas-light.

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PSYCHOLOGY IN THE EDUCATION OF THE PHYSICIAN.

THE Trustees of the Women's Medical College of the New York Infirmary have, during the past winter, given their students a number of opportunities to listen to lectures by authoritative speakers, upon the relation in which the doctor's education and life-work places him or her to other scientific fields than those with which the medical student is most naturally concerned. This wise enterprise must be heartily commended by anyone who realizes that the very fulness of the studies which modern students of medicine are compelled to undertake, itself involves the danger that they may lose sight of the relation of their work to the general movement of scientific thought.

The address upon the important subject with which we here deal was delivered by Mr. Henry Rutgers Marshall, the architect, who has lately designed the new buildings occupied by the college, but who is also known to the medical profession as a psychologist who has paid especial attention to the nature of pain, and who has made certain contributions to the theory of the physical basis of pain that have attracted so much attention.

Mr. Marshall's presence as a lecturer before a body of medical students was indeed a strong argument in favor of his claim that the doctor ought to study psychology; for the intimate bond that exists among the sciences, and especially between psychology and the sciences with which the doctor must become acquainted, is well exemplified when we find that a man who aims to fix his views in reference to the psychology of Art is compelled to make so thorough a study of the physical basis of mental phenomena that he finally appears as a "half-fledged" neurologist, as Mr. Marshall himself expressed it.

It is clearly true that the psychologist and the physiologist are dealing with diverse sides of the burning question as to the relation of mind and matter; and it is as certainly true that if the physiologist is right in his demand that the psychologist shall know the principles of neurological physiology, then the psychologist in his turn is right in demanding that the neurologist shall know a great deal about psychology.

But further than that, it is very easy to see that Mr. Marshall's views are sound in relation to the two principal points made by him in the address spoken of: 1, that the doctors need the aid of the psychologist, and 2d, that the psychologist in return requires the help of the psychologically educated doctor.

The surgeon depends upon introspective comparison for the delicacy of touch that makes him successful, and the general practitioner must become an empirical psychologist, at least before he can correctly judge of the nature of his patient's ailments in that great mass of cases where disease is indicated only by changes of mental state in the patient.

Then, too, as we well know, there are a great many diseases that are indirectly aided by what are distinctly psychic means—by encouragement of the patient, for instance; and we cannot but feel that if the world of medical men had studied psychology more thoroughly, they would long since have shown us a *rationale* of the relief that is undoubtedly given, in some cases at least, by the methods adopted by the "Faith Curist," the "Christian Scientist," and the less honest men who use kindred means in their practice.

That the psychologist needs the help of the educated doctor of medicine is not questioned, and that he is gaining much help from this source is evidenced in the fact that many of our best psychologists, men like Professor James, of Harvard, have themselves been practical workers in the medical schools before they have attained fame as psychologists.

We quite agree that it is most wise for the student of medicine to make very considerable excursions into the field of psychology; nay, more than that, we feel that it would be a great advantage if, in all our medical schools, opportunities for the study of psychology were offered to the students. Still we are not quite prepared to follow Mr. Marshall in his view, that it would be well, here and now, to make a thorough knowledge of the principles of psychology necessary to the attainment of the M.D. degree; this is a matter that would involve serious consideration. The subject is so important, however, that it seems to us worthy of thought; and perhaps the time may come at no late day when the step suggested will appear to be wise, for we feel sure that if doctors knew more of the principles of modern psychology they would be better reasoners and better able to deal with the problems of errant human nature.

Facts for the Society for Psychical Research.—Lovers of the marvellous have the opportunity of finding a strange coincidence in a story recently told at the coroner's court in Birmingham. A girl aged thirteen disappeared from her home; her disposition was taciturn and sulky, which, coupled with her expressed apprehension of water, led to the worst fears being entertained by her parents. Her body was subsequently found in the canal. The aunt of the deceased, hearing that the girl was missing, dreamt that she was walking along the bank of the canal, and while looking into the water saw the face of her niece. The police were asked to drag the canal at the spot indicated in the dream; they did so, and at once found the body. Such was the simple story told at the inquest, a statement which if made in a novel would be ascribed to the powers of the writer's imagination.—*Lancet.*

THE CITY'S INSANE.

At the time of present writing the Mayor has not decided whether or not he will approve the bill transferring the care of this city's insane to the State.

Whatever be the result, we have no doubt that it will end in an improvement in the management of our Island institutions. If these remain with the city, our officials will have every inducement, as they already have larger means, for efficient care of the asylums. If the institutions go to the State, the State officials will also feel spurred up by recent criticisms to do their best.

The daily press has, with hardly an exception, criticised the honesty, wisdom, patriotism, and intelligence of the legislators at Albany. Every year the same picture of petty squabbling, political jobbery, and partisan strife is presented to us.

Some of these papers, however, are now urging that the responsibilities, and the opportunities offered by the care of over six thousand insane, with its necessary immense expenditure of money, be turned over to the tender mercies of this legislature. It is from a distrust in the capacity and honesty of this body that we have opposed such transfer. The present State system has accomplished much good, but it has not escaped much severe and very just criticism. And it would not follow that because State care succeeded with half a dozen asylums of moderate size, situated in the country or in small cities, that it would succeed in the care of institutions containing six thousand patients (over one-third of the insane of the State) in the midst of a great city. It has seemed to us that some of those who have so earnestly worked for the betterment of the insane, have accepted the formula of "State care" with an enthusiasm more fanatical than just, and have made it part of their faith that State care must necessarily remedy all our ills. But the economic and medical problems are quite different at Willard, Poughkeepsie, or Middletown, compared with those at Ward's Island.

With the increased intelligence of our people we feel sure that the insane will get better care under either State or City management, but we have an abiding faith in the doctrines of home rule and local government, and we have much confidence in the capacity of New York City to govern itself, badly as it has been betrayed in the past.

AN INQUIRY INTO THE EFFICACY OF THE "GOLD-CURE."

Rev. Dr. Buckley, the learned editor of the *Christian Advocate*, has made a serious attempt to investigate the therapeutic value of the so-called "gold-cure." He sent out letters of inquiry to a large number of physicians and clergymen. He got answers from 25 of the former and 68 of the latter, or 93 in all. Through these he obtained reports of 534 cases of inebriety treated by the "gold-cure," of which number 275 remained cured and 251 relapsed. This gives a proportion of cures of 51½ per cent. It might be said at once that if fifty per cent. are cured, something is accomplished; but the answer is that this same result can be secured by ordinary measures not involving the resort to secret preparations. Of one hundred drunkards who deliberately and honestly desire to break up their habits, surely over half will be rescued by measures known to the profession. As two-thirds of Dr. Buckley's correspondents were clergymen, and many of these were believers in the treatment, the percentage of cures obtained by the inquiry is probably too high. Even admitting it to be as high as fifty, the validity of the claim that the "gold-cure" is a specific, is surely disposed of.

News of the Week.

Office Thief.—Another office thief who came to wait for the doctor, has been caught with sixty dollars worth of surgical instruments in his possession. The prevention lies in the rule never to allow strangers to remain alone in offices containing valuables.

Riotous School Children.—The Board of Health of Seattle, Wash., ordered the closing of two schools the other day on account of the prevalence of scarlet fever. The principal of one of the schools refused to obey the order of the Board, and told the pupils to enter, despite the presence of the health officers. A wild scene followed, the four hundred or five hundred children entering at the doors and windows, some of them throwing stones at the officers and others getting out the hose and turning a stream upon them. It was not until noon that order was restored by the arrest of the principal, and the removal of the children from the building. A somewhat less exciting time occurred at the other school, the principal of which was also arrested for resisting the order.

The Texas State Medical Society.—At the annual meeting of this Society, held at Dallas on April 23d to 27th, Dr. P. C. Coleman, of Colorado, was elected *President*, Drs. Wagley, Kennedy, and Bass, *Vice-Presidents*, and Dr. H. A. West, of Galveston, *Secretary*. The next meeting will be held at Fort Worth on the fourth Tuesday in April, 1896.

The Alabama Medical Association, at the meeting held in Mobile on April 16th to 19th, elected Drs. William Henry Johnston, of Birmingham, *President*, and Dr. J. R. Jordan, of Montgomery, *Secretary*. The next meeting will be held in Montgomery, on the third Tuesday in April, 1896.

The School of Pharmacy of the Northwestern University of Chicago, has added to its faculty Messrs. Henry Kraemer and J. B. Nagelvoort.

Yellow Fever in Cuba.—Surgeon-General Wyman, of the United States Marine Hospital Service, has returned from a tour in the South, which was extended as far as Havana, Cuba. He reports that yellow fever is quite prevalent on the island, especially about Santiago. Dr. Wyman personally visited several of the United States quarantine stations along the Gulf of Mexico and along the Atlantic coast north of Florida. Arrangements were perfected all along the seaboard as far as possible for a rigid enforcement of the United States quarantine regulations, and he hopes that yellow fever may be kept out of the United States this spring and summer.

Another Typhoid Epidemic.—The papers state that there is a serious epidemic of typhoid fever in Watertown, N. Y., where there were, on the 11th inst., one hundred and fifty cases of the disease. "Eleven students of the high school are critically ill, and one death has occurred." The cause of this outbreak is believed to have been the pollution of the water-supply, "which is pumped from Black River at a point just below where two cemeteries drain into it," and that other epidemics in Watertown "during the past two years" are supposed to have been caused by the contamination of the water.

The Health Board as an Advertising Agency.—We have received so many protests from physicians here and elsewhere against the practice on the part of the State and City Health officials of endorsing proprietary medicines that we beg to call the attention of the gentlemen concerned to the obvious impropriety of so doing. At best it is a grave error of judgment, and should be remedied by withdrawing the "published by permission" clause in these circulars. One physician significantly writes: "The inquiry naturally suggests itself, why are these gentlemen so interested in the company that they are willing to prostitute their high offices to the degrading service of officially advertising its goods?" The answer is on the face of the circular "published by permission." I venture to say the "Board of Health of the State of New York" and the "Board of Pharmacy of the City of New York" are the only similar bodies in the United States which allow their highest officials to commit such flagrant acts without the severest censure.

The Cause of Baldness in Man is said by Dr. Leslie Phillips to be the fact that he cuts his hair. He says: "In men the hair is habitually cut short from childhood, while in women the converse is almost universally true. In boyhood and manhood, by clipping or cutting the hair, we remove the gentle traction on the bulb and follicle which the natural weight of the hair exercises, and which constitutes the essential and natural stimulus necessary to secure due innervation and vascular supply to the hair-producing structures. Loss of vigor, and finally more or less pronounced atrophy, is the inexorable result, modified or delayed, it may be, by collateral circumstances, predispositions, or conditions." Dr. Phillips warns the "new woman" against wearing her hair short. Almost every theory has some defect, and we might ask Dr. Phillips why men who clip their beard or shave for a long time do not get bald on their chins?

Before and After the Bath.—According to the *Mercredi Médical*, Max Edel, a German bacteriologist, took a bath, and then examined the water for microbes. He found it contained five billions eight hundred and fifty million micro-organisms. After a bath of one foot only, he estimated the number of microbes at one hundred and eighty millions. The question now arises, When did Dr. Edel have his previous bath?

Society and Association Meetings.—The AMERICAN NEUROLOGICAL ASSOCIATION will meet in Boston on June 5th, 6th, and 7th.—The ASSOCIATION OF AMERICAN PHYSICIANS will hold its Tenth Annual Meeting in Washington, D.C., May 30th, 31st, and June 1st.—The NORTH CAROLINA MEDICAL SOCIETY held its Forty-second Annual Meeting in Goldsboro, on May 14th, 15th, and 16th.—The NEW HAMPSHIRE MEDICAL SOCIETY will hold its One Hundred and Fourth Anniversary Meeting at Concord on Monday and Tuesday, June 3d and 4th. Dr. David P. Goodhue, of Springfield, is president, and Dr. Granville P. Conn, of Concord, is secretary.—THE QUEENS COUNTY (N. Y.) MEDICAL SOCIETY will hold its Anniversary Meeting at Mineola, L. I., on Tuesday, May 28th.—The NEW YORK STATE MEDICAL ASSOCIATION will hold the Eleventh Annual Meeting of the fifth district branch in Brooklyn on Tuesday, May 28th.

National Association of Railway Surgeons.—Dr. John B. Murphy, of Chicago, at the National Association of Railway Surgeons, recently held in Chicago, was elected President of the National Association of Railway Surgeons.

Antitoxin.—In Dr. Louis Fischer's remarks before the Pediatric Section of the American Medical Associationthe words "Aronson's serum" should be substituted for "Behring's serum."

The Deutsche Poliklinik celebrated its thirteenth anniversary by a banquet at Liederkranz Hall on Wednesday evening. Dr. C. Beck presided, and addresses were made by different members of the faculty and invited guests.

The New Private Hospital for Contagious Diseases.—The necessary amount of money having been subscribed, the work on the new hospital for contagious diseases will be commenced within a few weeks, and it will probably be ready for occupancy late in the autumn. The site will be at the foot of East Sixteenth Street. There will be three separate constructions—a central administration building and two ward pavilions—controlled by a board of governors, of which the President of the Health Board and the Medical Commissioners will be ex-officio members, and nine other members as follows: Dr. John W. Brannan, F. A. Schemerhorn, Paul Tuckerman, James J. Higginson, F. De P. Foster, Cleveland Dodge, Drs. A. H. Doty and T. Mitchell Prudden, and George F. Crane.

The American Surgical Association will hold its annual meeting May 28th, 29th, and 30th at the New York Academy of Medicine. The programme comprises a discussion On the Radical Cure of Hernia and papers on "Castration for Hypertrophied Prostate," "Operative Treatment of Cancer in Different Localities," "Present Status of Anæsthesia," "Restoration of Joint Function After Fracture," "Bacteriological Aspects of Pus and Suppuration," "Gun-shot Wounds of the Heart," "Injuries to Pneumogastric and Phrenic Nerves," "Dislocation of Ulnar Nerve at Elbow," "Ligature of Innominate Artery," "Suture of Gall-bladder and Duct," "Personal Experience with Mad Dogs," "Hernia of the Bladder," "Ligature of Spermatic Cord," and "Excision of Œsophageal Pouch." Clinics will also be held during Wednesday and Thursday afternoons at the different hospitals. The members of the medical profession are cordially invited to attend.

Obituary.

MORRIS H. HENRY, M.D.,

NEW YORK.

DR. MORRIS HENRY HENRY died at his residence in this city, May 19th, of chronic nephritis of sixteen years' duration. He travelled much in search of health, but never gave up practice entirely, although for the past four or five years he had been a confirmed invalid. On May 2d, when driving, he was seized with an attack of angina pectoris, and it was with difficulty that he was got home and to bed. Since then he had grown worse, and from May 17th last he lay in a semi-comatose state until he died. Dr. Henry was born in London in 1835. He studied at the Polytechnic School at Brussels, afterward studying art in the Government school at Somerset House in London. He came to this country when he was seventeen years of age, and was graduated in medicine at the University of Vermont in 1860. He was an assistant surgeon in the navy during the war, and served under Farragut. After the war he came to New York. Governor Dix appointed him Surgeon-in-chief to the Emigrant Hospital at Ward's Island, where he served from 1872 until 1880. He was for a number of years Chief Examining Surgeon to the Police Department. He was a prolific and fluent writer, and originated and for five years edited the *American Journal of Dermatology*. He was the inventor of several appliances that have been widely adopted. Among them are the application of the plano-convex lens in examining the throat and upper air-passages; cutting-forceps for the removal of plaster-dressings; depilating forceps, and cartilage scissors, to facilitate the removal of dense tissues. He published monographs on various diseases, in which he was recognized as an authority. In 1876 he received the honorary degree of Master of Arts from the University of Vermont. He was noted for his opposition to quackery and his endeavors to raise the standard of the medical profession. He received in 1885, with the approval of Chief-Justice Waite, the degree of LL.D. from the University of North Carolina. His skill while surgeon in the Emigrant Hospitals, and his improved methods of treating certain diseases of the veins, won for him recognition from foreign countries. He was a member of many medical and surgical societies. He was also a member of the Union Club. As a speaker he always commanded attention and won for himself the reputation of a forcible and intrepid debater on all subjects of medical reform.

Dr. Henry was a member of the University of Athens, and was decorated by the King of Greece and by the Sultan—by the latter with the Imperial Order of Medjidie. His first wife was a daughter of Hugh Hastings, of the *Commercial Advertiser*, and by her he had a son, Hugh Hastings Henry, who is now a corporal in the army, stationed at David's Island. Dr. Henry's second wife survives him. His father was a celebrated Oriental scholar. His godfather was Sir Moses Montefiore.

MR. ARTHUR DURHAM,

LONDON, ENGLAND.

MR. ARTHUR DURHAM, Consulting Surgeon of Guy's Hospital, expired on Tuesday from acute pneumonia. He was born in Northampton in 1834, but entered Guy's in 1855, and passed through all the stages to consulting rank. He was admired and esteemed as a teacher, and greatly trusted as a surgeon. Full of enthusiasm and kindly sympathy he was a charming friend and general favorite. His contributions to surgery are well known to our readers. He was to have given the surgical address at the coming meeting of the British Medical Association—a great treat to the audience—but alas, his pleasant voice will be heard no more.

SIR GEORGE BUCHANAN, F.R.S.,

LONDON, ENGLAND.

SIR GEORGE BUCHANAN died on Sunday last, aged eighty-four. It is only about three years since he resigned his position as medical officer of the Local Government Board, after which he was appointed chairman of the Royal Commission on Tuberculosis. For about forty years his name has been connected with sanitary administration. He became chief of the department in 1879 and retired in 1892, when a knighthood was conferred upon him. He carried into his retirement the good wishes of the profession and of all who know anything of the history of English sanitary improvements.

Obituary Notes.—DR. GEORGE A. PERKINS, one of the best known physicians in Massachusetts, died on May 18th, aged eighty-one. He was born in Salem October 15, 1813, and received his elementary education in private schools. In 1833 he went to Africa as an Episcopal missionary, but two years later returned to America, entered Harvard College, and studied medicine. Soon after graduating he returned to Fishtown, West Africa, as a medical missionary, but in 1850 returned to Salem and began the practice of medicine. He was Post Surgeon at Ports Lee and Pickering from December, 1863, to May, 1865, and for a long time physician at the Salem House of Correction and the almshouse. He was widely known as an expert microscopist and chemist. He was a member of the original staff of the Salem Hospital. He leaves two daughters. —DR. HENRY J. HESSE, one of the prominent physicians of Brooklyn, died at his home on May 20th, from pneumonia, which he contracted two weeks ago. Dr. Hesse was born in 1853 in Brooklyn, and studied medicine and was graduated from the Long Island College Hospital in 1876. He was one of the founders of St. Catharine's Hospital, and for years was President of its Board of Physicians and Surgeons. He entered politics in 1885, and in the fall of that year was elected Coroner of the Eastern District.—DR. HARLAN P. ALLEN, of Columbus, O., died at Roosevelt Hospital on May 2d of suppurative appendicitis. Dr. Allen was one of the leading oculists and aurists in Columbus. He was born in Springfield, Mass., in 1856.—PROFESSOR EMIL NOEGGERATH died on May 3d, at his home in Wiesbaden after a long and painful illness.

The Late Dr. Bernard E. Vaughan.—At a stated meeting of the Hospital Graduates' Club held April 23, 1895, the following resolution was adopted:

The Hospital Graduates' Club desires to place upon its records, its deep sense of the loss it has sustained in the death of its late member, Dr. Bernard E. Vaughan. From the date of his admission to the club to that of his decease it had no warmer friend or more loyal supporter than he. He was faithful in his attendance, cordial in his social relations, and able in his scientific work. By his death, the members of the club feel that they have lost a valued friend, and the medical profession of the city one of the most promising of the younger men in its ranks. Be it therefore,

Resolved, That the sincere sympathy of the club be extended to his bereaved family, and that this action be entered upon the club records and published in the professional journals of the city.

JAMES E. NEWCOMB, M.D.,
THOMAS S. SOUTHWORTH, M.D.,
Committee.

Reviews and Notices.

CLINICAL DRAWINGS. A Collection of Representations of the Changes of the External Form of the Body Occurring in Internal Diseases. By H. CURSHMANN, Professor in Leipzig Klinische Abbildungen Summenny von Darstellungen der Veründerung der aüsseren Körperform bei inneren Krankheiten. Berlin, 1894.

IT is no longer necessary to emphasize the important part photography has begun to play in the modern study and teaching of medicine. What the author of this work has aimed at he has fully accomplished. Not only does he offer a large number of rare anomalies, but the different stages and characteristic positions and motions of the patients are represented with uncommon accuracy. Every one of the plates is a masterpiece, and the accompanying texts are models of precise and concise description. We have no doubt of the entire adaptability of the handsome book both to the profession and to teachers of medicine, and trust the author will keep his promise of continuing his work in the same style.

Not the least interesting among the cases of muscular dystrophy (progressive infantile, pseudo-hypertrophic, lipomatous, etc.) is Plate 12. It represents an enormous bilateral and uniform hypertrophy of the muscles of the arms and trunk, those of the lower extremities being normal. The anomaly was found in a professional athlete of thirty-eight years, of healthy extraction, with marked neurasthenia, and, while the electrical excitability of the muscles was unchanged, with considerable diminution in strength of all the muscles of the extremities. The nervous system is amply represented in the beautiful collection of cases; syringomyely, poliomyelitis, and polio-encephalitis, paralysis agitans, athetosis, catalepsy, local paralyses (infraspinatus, serratus, facial), and Graves's disease are successfully treated both in text and picture. No less striking are the drawings and descriptions of aneurisms, of sarcoma and carcinoma, of congenital fissure of the sternum, of Hodgkins's disease, of akromegaly, etc.

A COURSE OF ELEMENTARY PRACTICAL BACTERIOLOGY. By A. A. KANTHACK, M.D., and J. H. DRYSDALE, M.B. London and New York: Macmillan & Co. 1895.

THE work is divided into Lessons, and is arranged in three parts: I. General Bacteriology; II. Bacteriological Analysis; III. Bacteriological Chemistry. It is intended for laboratory work. The third part of this book forms, so to speak, an appendix to the two previous parts, and comprises an introduction to Bacteriological Chemistry for those who are desirous of devoting some of their time to advanced investigation and research work. It is written in a concise form, and will prove useful to every practitioner.

A MANUAL OF GENITO-URINARY AND VENEREAL DISEASES. By BUKK G. CARLETON, M.D., Professor of Genito-Urinary Diseases, Metropolitan Post-Graduate School of Medicine, etc. With Venereal Diseases of the Eye by CHARLES DEADY, M.D., Professor of Ophthalmology and Otology, College of New York Ophthalmic Hospital, and Vesical Calculus and External Urethrotomy, by WILLIAM FRANCIS HONAN, M.D., Adjunct Professor of Genito-Urinary Diseases, Metropolitan Post-Graduate School of Medicine. 8vo. New York: Boericke, Runyon & Ernesty. 1895. Pp. 315.

THIS very compact, well-written book is mainly from the Homœopathic standpoint, and gives a very clear picture of the clinical phenomena noticed in connection with the different features. As might be anticipated, there are many adaptations of special remedies for special symptoms which will doubtless be appreciated by those for whom the work is more particularly written. The surgical procedures and manipulations are up to date, and all the essential surgical appliances and methods are given in sufficient detail.

A BOOK OF DETACHABLE DIET LISTS, AND A SICK-ROOM DIETARY. By JEROME B. THOMAS, M.D. Philadelphia: W. B. Saunders. 1895.

THIS book contains a collection of Diet Lists for Albuminuria, Anæmia and Debility, Constipation, Diabetes, Diarrhœa, Dyspepsia, Fevers, Gout or Uric-acid Diathesis, Obesity and Tuberculosis, and will prove useful and practical in many ways.

MANUAL OF CHEMISTRY. A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Text-book Specially Adapted for Students of Medicine, Pharmacy, and Dentistry. By W. SIMON, Ph.D., M.D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore, in the Maryland College of Pharmacy, and in the Baltimore College of Dentistry. Fifth Edition, thoroughly Revised, with Forty-four Illustrations and Eight Colored Plates Representing Sixty-four Chemical Reactions. Philadelphia: Lea, Brothers & Co. 1895.

THE general plan of this edition is the same as that of the fourth, which we reviewed some two years ago, although the constant advance of chemical science has necessitated a number of additions, and some changes have also been made to bring the work into harmony with the new United States Pharmacopœia.

Beginning with an exposition of the general laws of matter as bearing upon chemical phenomena, the author treats successively of inorganic, analytical, organic, and physiological chemistry. Numerous colored plates depict the reactions of the more important medicinal salts and alkaloids and also some of the urinary tests. The author's practical experience as a teacher has taught him very clearly what is needed in the way of chemical instruction by students of medicine, and he has well availed himself of this knowledge in writing the present work.

SURGICAL PATHOLOGY AND THERAPEUTICS. By JOHN COLLINS WARREN, M.D., Professor of Surgery in Harvard University; Surgeon to the Massachusetts General Hospital. 8vo, pp. 832. Philadelphia: W. B. Saunders. 1895.

THE long experience of Professor Warren as a teacher and his extensive practice in a large hospital eminently fit him for a proper performance of a task requiring careful study, breadth of view, and the practical application of broad scientific principles. Such a work as the one before us has, in view of recent surgical advances, become a necessity, and we are happy to say that in reference to many of its excellences as a practical guide in the estimation of the application of pathological principles to clinical phenomena, it is unique.

The importance of studying these relations cannot be questioned. If any doubt existed regarding this point the book itself would be an unanswerable vindication. It is the demonstration of the reason why that impresses the fact and gives every study the proper turn of practical utility. The author very properly intimates that the subjects treated in the present volume are seldom grouped together in text-books, and we can add are still less frequently discussed in a clearly scientific manner as in the present instance. The subject of bacteriology very properly takes a leading place not only in the introduction of the principles upon which modern surgery is founded, but in the explanation of the different symptoms and lesions presented in given pathological conditions. The description of the various forms of bacteria, their illustration in admirable chromolithographs, and the manner and methods of their propagation are intelligently and interestingly given. The

pathology of fevers, the relations of phenomena to lesions and the rationale of pathological conditions connected are presented in an exhaustive manner. Under this heading we have classified, simple fever, or the fever of repair, the fever of inflammation, connected with microbic influences, and the fever of pyæmia.

Very many interesting points bearing on the pathology of inflammation are given in exhaustive chapters on the subject. Erysipelas, Hospital Gangrene, Tetanus, Hydrophobia, Actinomycosis, Anthrax, Glanders, and Snake-bite also receive proper attention in the same lines of study. The article on hospital gangrene, considering the present rarity of the disease, is particularly full. It is, in fact, the best account of this disease that has appeared since the late war. More important than that of any of the former diseases is the consideration of tuberculosis in its various surgical bearings. Carcinomatous and other growths are quite exhaustively discussed, and the microscopical and other illustrations of different specimens are in keeping with those of others scattered throughout the work. The bacteriological bearings of aseptic and antiseptic surgery are presented in a thoroughly practical way which will be especially appreciated by the progressive surgeon and the alert practitioner. Articles bearing on blood-serum therapy and the technique of toxine preparations conclude this admirable work. Evidently prepared with great care, and abounding in exhaustive scientific data, its still greater recommendation rests upon the clear and skilful manner in which the author adapts such knowledge to the practical needs of the progressive student.

SEVENTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF CONNECTICUT, with the Registration Report for 1893 Relating to Births, Marriages, Deaths, and Divorces. New Haven: The Tuttle, Morehouse, & Taylor Press. 1895.

AMONG other interesting matter in this volume is a report of the outbreak of typhoid fever at the Wesleyan University, caused by the eating of contaminated oysters at a fraternity supper. There is a list of the registered practitioners of the State, among whom we find nearly one hundred residents of other States, half of them from New York City, and most of them registered at Greenwich.

EIGHTH ANNUAL REPORT OF THE MANAGERS OF THE ST. LAWRENCE STATE HOSPITAL, for the Year 1894. Albany: James B. Lyon, State Printer. 1895.

THIS volume contains a number of interesting clinical reports illustrated by well-executed colored plates.

DISEASES OF THE HEART AND ARTERIES. Their Causes, Nature, and Treatment. By JOHN H. CLARKE, M.D., C.M. Edin., Extraordinary Member of the Royal Medical Society of Edinburgh; Fellow of the British Homœpathic Society; Physician to the London Homœpathic Hospital. London: E. Gould & Son. 1895.

IT is curious to read a work on diseases of the heart in which no account whatever is taken of pathology and little of diagnosis, the author's concern being only of the symptoms and of the drug which will cause their subsidence. Such is the book before us. It is for the greater part a report of cases in which symptoms suggesting diseases of the heart or of the arteries were present. There is a chapter on treatment in which some very sensible suggestions relating to diet and hygiene are given. The author gives a list of drugs which he regards as indispensable if one would be prepared for the cure of all cases of cardiac trouble. There are fifty-five of them, taking in the whole alphabet from aconite to veratrum viride. We really do not see, after reading a number of the cases reported here, that the author has any greater success in the relief of cardiac symptoms with his fifty-five drugs than most practitioners obtain with aconite, digitalis, caffeine, and three or four other cardiac remedies.

A MANUAL OF BANDAGING. Adapted for Self-instruction. By C. HENRI LEONARD, A.M., M.D., Professor of the Medical and Surgical Diseases of Women and Clinical Gynecology, in the Detroit College of Medicine. Sixth Edition, with 139 Engravings. Detroit: The Illustrated Medical Journal Co., Publishers. 1895.

THIS appears to be a useful book on bandaging and one that would be of great service to the student or young graduate who has not had the advantage of practical experience in hospital or dispensary. The instruction here given might also not come amiss as a refresher of the memory to many an older practitioner whose hand has lost its cunning through want of practice in surgical dressings. The work is profusely illustrated by simple cuts designed more for clearness than for beauty.

HOW TO BECOME REGISTERED. Designed as a Substitute for Professors and Instructors, when these Important Adjuncts of Pharmaceutical Study are Beyond the Reach of the Student. By HARRY B. MASON, PH. G., North Granville, N. Y. Published by the Author. 1895.

THIS is a little manual containing directions for self-instruction in pharmacy for those who are unable to attend college lectures.

INDEX OF MEDICINE. A Manual for the Use of Senior Students and Others. By SEYMOUR TAYLOR, M.D., M.R.C.P., Senior Assistant Physician to the West London Hospital. Philadelphia: Lea Brothers & Co. 1894.

ALTHOUGH called an "index," the subjects treated of in this work are not arranged alphabetically but logically according to systems. The descriptions are of necessity very brief, but they are at the same time clear and comprehensive, and for a short definition of any special disease or for a useful hint as to the therapeutic management of a troublesome case the work seems to be well adapted. There are occasional diagrams explanatory of the genesis of certain symptoms in special diseases of the liver, heart, nervous system, etc., which are suggestive and helpful. We do not, as a rule, approve of summaries of this sort, but we must admit that the one before us is excellent of its kind.

DIE INFECTIONS-KRANKHEITEN, ihre Entstehung, ihr Wesen und ihre Bekämpfung. Für Aerzte and Verwaltungs-Beamte. Von DR. W. PLANGE, Kgl. Kreisphysicus. Berlin: S. Karger. 1894.

THE author of this little work was led to write it by what he observed, during his service as district physician, of the popular ignorance, even among the officials, in matters relating to hygiene and the prophylaxis of contagious diseases. The book is aimed not only to aid the physician in his struggle against disease, but also to teach him how to inculcate in others a due regard for the primary rules of hygiene and a mode of living that will best tend to fortify them against the attacks of infectious diseases. The book is interesting and instructive.

GRUNDRISS DER HISTOLOGIE. Für Studierende und Aerzte. Von DR. BERNHARD RAWITZ, Privatdozenten an der Universität, Berlin. Mit 204 Abbildungen. Berlin: S. Karger. 1894.

THIS is a comprehensive and satisfactory guide for the student of histology, written by one whose daily work it is to teach this fascinating science. The illustrations are somewhat schematic, but, for that very reason, clear and helpful. One who will use this book as a help in microscopical work cannot fail to make progress, even without a teacher's aid.

Society Reports.

American Medical Association.

Forty-sixth Annual Meeting, held in Baltimore, May 7, 8, 9, and 10, 1895.

SECTION ON DISEASES OF CHILDREN.

SECOND DAY, WEDNESDAY, MAY 8TH.

(Continued from page 638.)

Etiology of Infantile Summer Diarrhœa.—DR. ROSA ENGELMANN, of Chicago, sent a paper with this title, which was read, in the absence of the author, by DR. KOPLIK. The disease resolves itself into intestinal intoxication through the action of bacteriological organisms. These germs are proved to be of very numerous kinds. Accumulation and absorption of the products of these infections and their ptomaïnes produce the local lesions and the systemic effects—ento-colitis, pneumonia, meningitis, et cetera. Various kinds of organisms have been found. Future investigations will probably show the relation of these various organisms to the special conditions produced. Observers have pointed out that the disease is localized in some epidemics, while the germs remain confined to the intestines, and that grave systemic symptoms only follow after the micro-organisms have entered the circulation.

Colitis in Infancy and Childhood.—DR. EDWARD ANDERSON, of Brockville, Md., read a paper with this title. The disease prevails in hot weather, due to intestinal fermentation, to which hot weather is conducive. This is made more liable to occur by impaired health, especially so in artificially-fed children, as is well known. Undigested material accumulated in the intestine conduces to the development of the disease, which should be eliminated by cathartics or washed out by injections. Cases illustrating the management employed by the author were read. He insists upon the giving of mercury and enemas. Change of diet should be carefully made. Mercury is the drug advocated. Blue mass should be administered until symptoms abate, together with warm-water injections.

Membranous Enteritis Associated with Ascaris Lumbricoides.—DR. IRVING M. SNOW, of Buffalo, N. Y., read this paper. He introduced the subject by citing a case in which casts of the intestinal membranes were discharged, during the course of the disease, three inches long, and cylindrical, on the first occasion. After this several smaller portions of membrane were discharged on several occasions. Finally ascarides were discharged. Calomel and santornin then brought away two more. Later others were brought away. The casts ceased to be discharged after the worms were got rid of. The history of this case is peculiar. The casts evacuated were accompanied by blood and mucus, but, contrary to the usual case, there was no pain nor tenesmus or other uncomfortable symptom. A similar case was read, reported by another observer. In this case, fourteen days after discharge of fibrous membranes ascarides were passed.

Magnesium Sulphate in the Treatment of Diarrhœa in Children.—DR. STEWART PATTERSON, of Pittsburgh, read this paper. The disease has been shown to be due to accumulation of morbid germs and resulting accumulations. Abnormal chemical action set up by organisms would appear to be an important factor; the contents of the stomach and intestines being rendered acid during the earlier stage of the disease. The remedy under consideration corrects the acidity and expels the contents of the stomach and intestines. One drachm a dose, or more, before meals, is given. Reports of the duration of the disease treated at the dispensary were given, showing the efficacy of the treatment. Beneficial results are claimed by the author in nearly all cases.

DR. KOPLIK, of New York, said that meningitis and pneumonia in ento-colitis are due directly to the contamination of the blood by micro-organisms and their products. As to the use of mercury in intestinal inflammation, great care is desirable, due to the danger of inducing thereby kidney complications, entire suppression of urine being readily induced in these cases by mercury. As to the use of sulphate of magnesium, the speaker would say that he preferred to use very little medicine, and to rely on regulation of diet—starving will cure many cases and is borne better than might be expected—white of eggs, and water and broths as diet were among his favorites. Bismuth he employed to a large extent.

DR. W. D. BOOKER, of Baltimore, said that probably the bacteria weakened the cell action of the intestine. We do not know altogether what takes place to cause all the various conditions. Hot weather, we know, favors the growth of organisms and they seem to thrive on milk particularly. When there is a weakened condition the bacteria have an opportunity to get in their work. Bad management of diet conduces to this condition. The regulation of diet is, therefore, of the first importance. The lesions produced from the toxins of the intestines act on the organs very much like those produced by infectious diseases, such as diphtheria. The bacteria are easily traced through the various tissues of the intestine and leave traces in suppuration. His own observations show no uniformity of pathological conditions, indicating a mixed or varying infection. No two cases are ever alike. One class, clinically, shows nervous symptoms. Another class of serious cases shows more local effects on the mucous membrane of the intestine. As to treatment, the speaker regards the dietetic as the first consideration. Stop the food the child is taking and then get rid of the contents of the intestines. Substitute some water-gruel. Calomel is the one remedy the speaker relies on. There is some action from small and frequent doses of calomel on the mucous membrane which we do not yet understand. One-sixth grain every hour for a number of doses. We cannot expect to effect disinfection by drugs, but must rely on getting rid of accumulations and restoring the normal condition of the mucous membrane. After the disease has gone on for a week or more, medicine ceases to be effective, and diet is about the only measure to be relied upon. Bismuth is often disappointing. Irrigation sometimes gives relief, but where there is a great deal of inflammation present it must be used cautiously. The irrigation should be done with a soft catheter and two or three quarts of water used and allowed to run out as it will by return current.

DR. RIGGS said that he believed that other factors than bacteriological entered into the cause of diarrhœa. We do not discriminate, as a rule, the different conditions. Where there is gastro-enteritis with watery discharges, after the accumulations are removed, there is nothing so effective as the nitrate of silver. It will stop the vomiting and the watery discharge. When the lower bowel is affected then mercury is the best remedy. Another speaker said that sending children on the water for trips of a day or two will produce beneficial effects. It would seem in these cases that the change for the better was due to removal from the heat of the city, therefore there was evidently something more than bacteria present as a cause. The practice of using purgatives and irrigating should be made conditional as to whether there is anything to get rid of. Often autopsies show very few bacteria, or anything else, in the intestine. In those cases in which it is evident that the symptoms are due to the presence in the system of toxins then opium is indicated. In many cases opium has been found by the speaker beneficial after everything else had failed. Another speaker objected to

sulphate of magnesia on account of its horrible taste. Something less nauseous could easily be found of equal efficiency. He has used hot water and calomel; when pain is present morphia and atropia.

Dr. Fischer said that the routine treatment of diarrhœa in Germany is washing the stomach and intestine, as high up as possible, with a simple warm saline solution. When there is loss of water in the tissues hypodermatic injections are made. Salt is constipating. This is shown by the effects of salt air on those crossing the ocean.

Dr. Adams said his experience has shown that very much is accomplished by simply removing the child from the heat. He related his experience with hospital children removed from houses where they were very much crowded. Fifty per cent. of these children died, and there were no commensurate lesions found at autopsies. It was very hot weather. There was, on an average, less than ten stools a day in these cases. There may have been drain contamination, possibly, but the speaker believes the heat was the most potent factor. In irrigating provision should be made for the return current, to get the best effects.

Dr. Adams related several severe cases where removal from heated air to the cool of the mountains, without medicine, had promptly cured the diarrhœa.

Dr. Anderson, in rebuttal, said he could not always take his patient to cooler climates. He spoke of the impossibility of sulphate of magnesia in cases of severe vomiting. Calomel or gray powder was the only feasible remedy to unload the bowels in many cases.

Dr. Patterson, in rebuttal, said he did not want to be understood as an advocate of sulphate of magnesium as a cure for diarrhœa. He did advocate removal of the cause of the diarrhœa in some way. Sulphate of magnesia was one of the agents useful for this purpose.

Third Day, Thursday, May 9th.

Antitoxin in Scarlatina.—Dr. Clark Parker reported a case occurring in a child aged twenty-seven months. Made diagnosis on Saturday morning; eruption and all other ordinary symptoms present. Sunday it appeared more like diphtheria, but cultures afterward showed streptococci. Antitoxin was used and the symptoms abated under it promptly and the child did unusually well under the circumstances. The speaker thinks highly of antitoxin in scarlet fever and in mixed cases. He uses other treatment the same as when antitoxin is not used locally.

In the case reported above only a trace of albumin was found at any time. The desquamation was not so great as ordinarily. The speaker believes that this is due to the antitoxin modifying the severity. Answering the question the speaker said he used fluid antitoxin of the Pasteur Institute of Boston.

Treatment of Double Club Feet and Hands.—Dr. B. Merrill Ricketts, of Cincinnati, read a paper on this subject. He described the condition as affected by intrauterine influence. A case was described in which there was proved to be present multiple peripheral neuritis. The treatment was by plaster-of-Paris bandages, under which there had been much improvement in position of the feet, but the hands had not improved so much. The cause of the multiple neuritis the reader was unable to discover.

Dr. Thomas H. Manley, of New York, discussed the advisability of resorting to operative procedure, and said it was a mooted question which was the better method, that, or the mechanical. He said that the affection of the muscles causing deformity of the hand analogous to those causing that of the leg, was a very rare condition, if not unique.

Dr. Ricketts remarked that the hands did not improve so rapidly as the feet because, probably, of the aid to cure given to the feet by the weight of the body in walking and standing.

Tubercular Meningitis.—Dr. William E. Lockwood, of Baltimore, read a paper on this subject. The paper was based on cases of his own, in some of which autopsies had been made. Of the ten cases seven were under bad sanitary conditions. The usual contributary causes were present—bad air, poor diet, heredity, etc. He gave the results of the observations under several heads.

Family history: All showed hereditary vices, that is, the families did, save two which could not be determined. Residence and surroundings showed bad sanitary conditions in nearly all. Experiences in these cases showed him the necessity of study before making diagnosis in children, where fever and obscure symptoms were present.

Summary: Seven negroes and three whites. Six gave histories of hereditary tuberculosis. Average duration, four weeks. The pathological findings were read.

Tuberculosis and Infected Milk.—Dr. Frank S. Parsons, of Philadelphia, read a paper entitled "Has Tuberculous Cow's Milk Causative Influence in Tuberculous Lesions of Infancy?" Frequent traces of early tuberculosis in the lung of those dying late in life, which have healed, was referred to as possibly to be accounted for in some cases by early infection from milk. The danger is to those who furnish good soil for tuberculosis—the weak, and those predisposed by heredity. There is no danger from the milk of infected cows, unless the milk actually contains tubercle bacilli.

Diagnosis of Pneumonia in Children.—Dr. J. P. Crozer Griffiths, of Philadelphia, read a paper on this subject. A limited area of dulness is easily overlooked unless light percussion is employed—and even then, sometimes, there will be no dulness during the attack—sometimes the disease is diagnosed as existing on the wrong side, due to affected lung being obstructed as to air; while the unaffected lung performs the functions of both and is less resonant on percussion. Broncho-pneumonia may assimilate croupous pneumonia very closely in all the local symptoms. To illustrate this a case was related. Autopsy showed typical broncho-pneumonia in the case in which a diagnosis of croupous pneumonia had been made without any doubt of its truthfulness. It is liable to confusion with pleuritic effusion, as is well-known. A case was related illustrative of this in which the error was due to the absence of the ordinary symptoms of effusion, and those of broncho-pneumonia were present. These cases are very puzzling; often keep the attendant in a state of vacillation. Phthisis is particularly liable to cause confusion, being mistaken for broncho-pneumonia in the early stages, or broncho-pneumonia for it. The various features of this difficulty were pointed out by the history of cases. It may happen that broncho-pneumonia precedes the phthisis, as we know. How often this happens it is hard to determine.

The pain in pneumonia is sometimes referred by children to the abdomen—as was illustrated by a case. The case was admitted to the hospital with diagnosis of peritonitis, in which autopsy showed no peritonitis, but purulent broncho-pneumonia. A case was related in which an extensive pneumonia had been overlooked for several days, in which there had been no cough whatever to call attention to the lungs.

Dr. G. W. McNeill, of Pittsburg, said, regarding diagnosis of tuberculous meningitis, according to textbooks one would suppose this easy, but experience did not always prove it true, as in a case he related in which a positive diagnosis was made. The child recovered. This result convinced the speaker that he had been in error in his diagnosis, as he did not believe recovery ever took place in tubercular meningitis. Never in his own experience, where he could be sure of the diagnosis, at least.

Dr. Mailhouse, of Connecticut, said he had often

been unable to make a diagnosis until after the fifth day in pneumonia in children. Probably the disease began centrally. At any rate after about five days the diagnosis from physical signs became possible, when before it had been impossible. As to iodide of potash, he thought Dr. McNeill gave too little to produce any effect, if any can be produced by it in tubercular meningitis. As for himself, he thought nature did more than the iodide. He thought recovery was not to be expected in tubercular meningitis.

Another speaker asked Dr. McNeill if there had not been suspicion of syphilitic disease. The answer was "none whatever."

As to pneumonia, he thought the time for hopeful treatment was in the first stage. After this stage no effect could be expected to be made upon the disease itself. Symptomatic treatment was, after the first stage, with good nursing, all that would be of any use.

Antiphthisin in Tuberculosis in Children was the title of a paper by DR. EDWIN KLEBS, of Asheville, N. C. The remedy can only be effective in those cases in which there are no secondary pathological products in the tissues. Properly selected cases—only uncomplicated cases—are therefore necessary to test the remedy. When this is done, and the remedy is properly prepared and administered, it is effective. In all tubercular and scrofulous cases in which suppuration has not yet taken place the treatment is applicable. It is known that tuberculosis may lay for a long time latent to develop at last into active symptoms. But all debilitated patients are not to be regarded as tubercular; but where there is any evidence of scrofula, they should be so regarded.

The effect of antiphthisin was illustrated by cases. Two cases of well-developed phthisis of the lungs, in which all symptoms of the disease have disappeared under the use of the remedy, were related in full. Cases of scrofulosis were then related. The first, a girl with glandular enlargements of scrofula, and other symptoms in the eyes. The tuberculous deposits entirely disappeared under the injections. Its effect on tubercular joints was also illustrated by a successful case, all symptoms disappearing. This refers to the more superficial affections and not to the affections within the bone, where less satisfactory results were obtained.

DR. LARRABEE, of Louisville, Ky., spoke of tubercular meningitis, declaring that no one was competent to make a diagnosis who had not sat at least an hour at the bedside. Three points were to be made out clearly: the cerebral symptoms, the contracted abdomen, and the projectile vomiting. The knitting of the brows must be present beside the vomiting and contracted abdomen. The speaker said that we hardly appreciated the frequency of syphilitic inheritance. Referring to Dr. McNeill's case, he said he always thought when he got good results in such cases from iodide of potash he had uncovered the syphilitic diathesis, which he had before failed to discover. We now recognize pneumonia as a microbic disease. In children the brain symptoms vanish as the lung symptoms clearly come out. The bacterial infection has preceded for some time the full development of the lung symptoms.

Referring to Dr. Klebs's paper, he said that Koch's publication of tuberculin was premature and the results in consequence unfortunate, but that we should now take up the subject-matter again without prejudice. He recognizes in scrofula another inherited condition of vitiated growth, but not specific tuberculosis. The latter is not, properly, inherited, but the scrofulous condition is. A speaker asks if antiphthisin and tuberculin are the same, etc. Another asks if it may be given by the mouth successfully.

DR. GRIFFITHS, in rebuttal, says that he believes recovery is possible in tubercular meningitis, as was shown by an autopsy, where it was proved to have once existed. As to the hydrocephalic cry, it is not diagnostic of this disease. It is observed in various nervous and cerebral states.

DR. KLEBS remarked that distinctions between tuberculosis and scrofulosis had been clearly disproved. The cheesy glands are tuberculous, and when exploded and their contents disseminated in other tissues are capable of producing phthisis. When purely tubercular disease is present remarkable results are obtained with anti-tuberculin; but when there is mixed affection this is not so. As to the antiphthisin, it is only tuberculin in a purified form. It may, if administered in large doses, be dangerous in human beings. It is not advised to use it as a diagnostic agent; but it is efficacious as a test of the presence of tuberculosis, as we test the presence of syphilis by the use of iodides. As to tubercular meningitis, Dr. Klebs has had no experience with the remedy, save in one chronic case which recovered. He had always used the remedy for diagnosis when he was in doubt. This was said in answer to questions.

The Chairman announced that this would be the last session of the Section; that the papers appointed for Friday would be read to-day in place of several on the programme whose writers were not in attendance.

Bromoform in the Treatment of Pertussis was the title of a paper by DR. P. J. EATON, of Pittsburgh, which was read by the Secretary. It is a sedative, germicide, and antipyretic. Illustrative cases were given, in which prompt relief occurred and early recovery—some in ten days. In adults rapidly increasing doses, up to thirty drops a dose, were administered. One patient of three years who took half a drachm by mistake had symptoms of poisoning soon after—stupor, etc. The dose given to young children was from two drops up to six usually. The dose was begun with a small one, increased rapidly until tolerance was reached, then continued so long as needed, with gradual diminution as the symptoms subsided. Alcoholic solution of absolute purity should be used only. It has a sweet pungent taste when rightly prepared. We have in this remedy one by which the disease is controlled, ameliorated, and the mortality greatly reduced. Impure or overdose causes nausea and vomiting, followed by stupor. It may be given in capsule.

Infant Mortality.—DR. A. J. WORK, of Eckhart, Ind., read a paper on some of the causes of great mortality in infancy and childhood. The conditions in great cities, of crowding, poverty, and unsanitary circumstances, are well known. This great mortality is observed most particularly under the age of five years. Congenital weakness is evidently a potent factor, such a large percentage occurring soon after birth. Hereditary influences will be first considered. This factor affects population in the diminution of births as well as by mortality after birth. The affections inherited affect the constitution or special organs or parts of the body. Animals have higher instincts regarding proper food than human beings. The ignorance or indifference of mothers is very frequently observed to a degree scarcely credible. Attention to proper clothing is not sufficiently regarded. Flannels are often not used when they are so necessary to protection in babies. Zymotic disease is one of the great causes of death. Sanitation and isolation are coming to affect favorably this cause. The lack of natural affection, in these times so prevalent, like that to which St. Paul refers in the Epistle to St. Timothy, is a sad spectacle. What may we expect for future generations unless this indifference is abated? Infantile insurance was mentioned in this connection. The physician has a duty to perform here.

Modern Methods of Preparing Food for Infants.—DR. W. D. BOOKER, of Baltimore, Md., read a paper on this subject. The small size and weak function of the young infant must be considered and the quantity rationally graded in accordance. The indications of overfeeding are regurgitation and indigestion as indicated in the stools.

The cow's milk should be made, as has been attempted, to assimilate artificially mother's milk. But this has not been altogether successfully done yet. Sterilization of milk in this connection is the most important advance in this direction, first introduced eight years ago. This takes into consideration the proper care and food of the cows, care of the milk after it leaves the dairy, as well as subsequent procedures. Germs have been found in the milk of cows after three hours in great number. This forms a serious obstacle to sterilization, not because the germs cannot be destroyed, but because of the changes they produce in the milk which render it objectionable. Proper care of the bottles should be observed. Lack of it is one of the most fertile sources of infection of the milk. This point has been carefully proved by experimenters. Care of the nipple of the bottle is also of great importance. Temperature of 103° C. is necessary for sterilization, as has been proved. Thus heating the milk does not impair its digestibility and nutritive qualities. His personal experience is quite extensive with sterilized milk and it concurs with others, as stated above. If the milk is fresh twice a day complete sterilization is not absolutely necessary. The milk must be boiled for fifteen minutes. Some have claimed that summer diarrhœa is not lessened by sterilized milk; but the reader believes this is because of imperfect measures, and that when the practice becomes a well-established custom and all its minutiæ are generally attended to and carried out, the effects will become apparent. The separation of the casein from the milk of cows by centrifugal force, as practised in Boston, was referred to, whereby this ingredient and some of the fat are removed, so as to leave the constituents the same as those of mothers' milk. The objection to this method is its great expense, as at present practised. But the method is simple and will become inexpensive once adequate means are provided.

The Care of Infants and Children.—Dr. A. C. Cotton, of Chicago, read the paper. He said the subject which he proposed to discuss was old and homely—the best means to protect the infants placed in our care. The leading factor for evil in this regard is the daily neglect. This begins with the first moments of life. The practice at the Presbyterian Hospital at Chicago in caring for the new-born was related—washing the mouth, oiling, wrapping up, giving water, and everything else to make the baby comfortable. There is shock to the baby from the processes of birth, it should be remembered. The baby is not washed for several days, but frequently oiled. The infant suffers from intense thirst after birth, especially for two days, and should be given water frequently, slightly warmed. The baby should go to sleep soon and sleep most of the time for several days. The body is more thoroughly cleansed by wiping the body with absorbent cotton saturated with oil, and this avoids the irritating and drying effects upon the tender skin of washing with soap and water. Trial will dispel prejudice against this practice entertained by mothers and nurses.

The body's heat must be retained by clothing applied without delay, since the surrounding air is much below that of the uterus of the mother, to which it has till now been accustomed. This protection should not consist of the elaborate garments usually applied: pinning blankets, abdominal bandage, dresses with sleeves, etc., the child's body exposed while being applied. These are all abominations and should be abolished, and simple soft and warm and uniform clothing substituted without any pressure at any point whatever. The abdominal band should be loose and used for a week. Everything must be such as will allow absolute freedom to eat, sleep, and eliminate. These are the proper functions of the baby. The painful process of dressing and undressing is ridiculous to consider. The wonder is that the tender things are not killed outright. Samples of the garments used in the hospital referred to were displayed. A knit shirt, worsted, elastic but fitting fairly well. Thin soft flannel garments gathered about the neck, with blind, loose sleeves in one pattern, while in others there are no sleeves. These garments are puckered by a string below the feet. A padded diaper of absorbent cotton, applied sterilized, to be destroyed after use.

Developmental Needs in Children was the title of a paper by Dr. J. Madison Taylor, of Philadelphia. Education begins, as Dr. Holmes said, three hundred years before birth. The same is true of disease. What is inherited is not the disease itself but some weakness or tendency to it. Immunity hereditary, as yellow fever in the negro, and acquired, as in infectious diseases after an attack, was referred to as illustrative of the subject-matter. No doubt the effects of deleterious causes in the parent are felt in the child. Various diseases well known, alcoholism, lead poisoning, etc., are examples. Communication between some different races has been observed to have deleterious effects, as was shown in the case of healthy Swedes and Arabs producing offspring with strongly marked tubercular tendency.

Anything that will reduce cell-force reduces health standard and power of resistance to disease. Overwork was referred to as a potent factor at present in the rush we witness. It is time to calm down and take a rest, or future generations will sadly suffer.

The poor overworked school-girl crammed with useless learning at the expense of health, joy of life, and life itself, is a pitiful spectacle. It would be absurd if not so serious. Let's have it stopped!

Dr. O'Brien, of St. Paul, Minn., remarked that he too had his fad in treating children. He disagreed with one paper and believed that most children are born healthy, and if we leave them alone to breathe, eat, sleep, and eliminate, they will thrive. The first nursings should be in six hours apart, both breasts at each time, later every four hours. The children in the wild and woolly West are more likely to be killed by fond and unwise parents, in excess of anxiety and care. If they would only let them alone when they have their little natural disorders many more would live. He believed in prepared foods, and did not think it necessary to worry about sterilizing milk, since Nestle's Food is sterilized milk. Every child is a law unto itself and must be studied to find what these laws are and what food will best agree. He agreed in the main with Dr. Cotton regarding clothing, but believed in the abdominal band snugly applied.

Infantile Scurvy.—Dr. I. N. Love, of St. Louis, Mo., read a paper on "Some Points on Scorbutus in Children." Many observations in eleemosynary institutions have shown him that the disease is more frequent in private practice. The cases seen by him had occurred in feeble children. Histories were presented in detail. Five cases had been observed. It is most apt to be confounded with rheumatism. There is no doubt the disease is due to the absence in the system of certain organic acids, and these must be supplied by the feeding. The juice of fruits—a teaspoonful of orange-juice for a baby—is the most prolific source of supply. But proper feeding with ordinary foods, attending to digestion and assimilation of the foods taken, are also requisite and should be carefully and minutely taken into account. Digestion is not always proof of assimilation. We should have a food just as nearly as possible like mother's milk. There should be used fresh food, not killed by sterilization, if feasible.

Dr. Atkinson, of Baltimore, said, in regard to the paper, he did not deny the existence of the disease in children, but he had certainly never seen a case. The conditions for producing the disease are absent while the infant lives on the mother's milk. Regarding artificial foods there is prevailing misapprehension. Condensed milk is simply milk without its water, and it spoils in a few hours. Canned milk is another thing.

This is preserved milk in fact. It makes fat, but weak and flabby children. We have in marasmus and purpura hemorrhagica without scurvy in children. The teaspoonful of orange-juice, the speaker thought, might have had less to do with curing the cases than other wise measures employed.

Dr. Bishop, of Easton, Md., thought that one point, the prenatal care of infants, had been overlooked. One question so hinged upon another that it would not do to leave this part out. Children of weak constitutions, inherited or acquired, should not be too much encouraged to grow up. The practice in this direction in our institutions was an evil to society. Weaklings breed faster than healthy people. They should be allowed to die, and thus prevent the propagation of their kind.

In rebuttal Dr. Love said the prenatal feeding of the child is important. Even the condition of the mother at the time of conception. Even also the whole question of matrimony, as bearing on this subject. No one so well knows the very serious relations to the race as the physician. As to allowing the weaklings to die, where is the right-minded father or mother who would consent to this? The better instinct is always to save. Who knows where we have the germs of a Lincoln or a Shakespeare, or what possibilities may be present in the veriest weakling infant?

The speaker was sure that there was no question of diagnosis in his cases of scorbutus in children, nor in those of other observers. Those who see so many children, as in large cities, and have greater experience, he believes better authorities than those who see comparatively few in the country or small cities. Scurvy is abroad among children, and the general practitioner should be on the alert for it.

The Section was then adjourned.

SECTION IN MEDICINE.

Second Day, Wednesday, May 8th.

Some Points Concerning the Etiology of Tuberculosis.—A paper with this title was read by Dr. Frank E. Parsons, of Philadelphia. For the development of this disease in any one of its forms there must be what we call the pre-tubercular condition. The tubercle bacillus alone is as incapable of developing the malady as an ungerminated grain of wheat is to reproduce itself. It is the taking into the system of the bacillus, plus the pre-existing soil, which eventuates in the full-fledged malady. The results of autopsies show that this process begins in many individuals, and that the products either resolve or are discharged by suppuration, and the forerunner of the latter morbid process is always vascular stasis. Physiologically the circulation is either afferent or efferent. Anatomically it is arterial, venous, and capillary. The development of tubercle signifies that previous lymphoma or lymphangitis has altered circulatory conditions. Tubercle is therefore rather a sign of lymphatic stasis than a disease *per se*.

What is the cause of this lymph stasis? We know that acute irritation of tissues in burns leads to acute inflammation. Chronic irritation, as with alcohol on the stomach, leads to corresponding chronic proliferative changes. Unless the waste products of the body are removed by the lymphatic channels they accumulate and poison the system, but an excess of waste material may of itself cause venous stasis. We know that in phthisis the venous blood is of a brighter hue than usual, and that in this condition there is a deficiency of oxidizable phosphorus. If now we feed phosphorus to patients the venous blood reassumes its normal hue. Under this accumulation of waste products there first occurs stasis, then a paralysis of the nerve-centres, and finally an increased blood-supply, all previous to the entrance of the bacillus. The *rôle* of the latter as the sole etiological factor is not yet demonstrated by the result of animal injections. These are fallacious, as only those animals are affected who would get a lymph stasis from the injection of any substance, no matter what its nature might be. The general conclusions are —1, That primary tuberculosis is primarily due to lymph stasis, congenital or acquired, and, 2, that the tubercle bacillus is the phenomenon expressive of the disease, and is therefore symptomatic and not etiological, and that the so-called scrofula is merely a pre-tubercular stage.

Menthol in Tuberculosis.—Dr. DeLancy Rochester, of Buffalo, N. Y., next read a paper entitled "Report of Thirty-four Cases of Tuberculosis Treated by Carosso's Method." The writer has been much impressed by the reports of Carosso, of Genoa, as to the utility of menthol in phthisis. The latter has claimed that by absorption it promotes a general disinfection of the body, though he uses creosote also internally. His method is to fasten by tapes over the nostrils a piece of linen 10 ctm. square and folded once. On this he pours a few drops of essence of peppermint, having previously greased the nostrils so as to avoid intra-nasal irritation. The patient is directed to take eight or ten deep inspirations with closed mouth every fifteen minutes. He also swallows, every three hours, one teaspoonful (in half a glass of water) of the following mixture: Beechwood creosote, 8 parts; alcohol, 550 parts; glycerine, 250 parts; chloroform, 20 parts; and essence of peppermint, 8 parts. Over-feeding is also resorted to. Two or three litres of sterilized milk are taken daily, with meat cooked to taste, and four hundred to five hundred grammes of good wine. Sputa are carefully disinfected.

Carosso reports forty-four cases, with six deaths. Many were well advanced, and in all bacilli were found. The average time of treatment was sixty days. The thirty-eight recoveries seem to be permanent.

In the Erie County Hospital Dr. Rochester has given the plan of treatment a trial in thirty-four cases. Twenty-eight had cavities; four had infiltration of the right upper lobe, and two of the left upper lobe. In all the process was an active one, with afternoon fever. The previous treatment had been oil and creosote, on which they were doing well. No wine was given, but whiskey was used if stimulation seemed necessary. His results, however, were disappointing in the extreme. In two months all his cases were doing badly. The creosote cases, previously doing well, began in a week to share the same general fate. There was extreme gastric disturbance, even vomiting. The pad was complained of in one case as interfering with respiration, but all but one breathed much better and coughed less. The amount of sputa did not diminish.

The great criticism to be made on *a priori* grounds against this plan of treatment is the excessive amount of fluid introduced into the body. It means one pint every three hours, from 6 A.M. to 9 P.M., and one additional pint during the night. Too much milk and meat are, under the circumstances, incompatible. The lactic acid therein overcomes the hydrochloric acid of the stomach. In most phthisical cases the stomach is dilated, and the response of its musculosa to physiological stimuli imperfect. Such treatment would upset a healthy stomach.

The general conclusions of the paper were: 1. The internal treatment of Carosso is unphysiological, and upsets the stomach. 2. The inhalation of peppermint is a valuable method and deserves further trial.

In opening the discussion on the two foregoing papers Dr. Delano Ames, of Baltimore, gave his experience with the plan in the Johns Hopkins Out-patient Service. He had employed it in from eighty-five to ninety cases. Sixty were under treatment for a period of twelve months. His results tallied closely with those of Dr. Rochester. Carosso's claim that the bacilli all disappeared in from eighteen to sixty days had not been borne out in his own experience. Fully one-half his cases suffered from severe stomach dis-

turbance. In some instances weight rose at first, but afterward fell back. He thought that more solid and less liquid food would approach more nearly to an ideal diet, more starches, sugars, and fats, and these he had given. In all Carosso's cases the lungs alone were affected. In three-quarters of his own cases this was the condition. Bacilli were lessened and night-sweats diminished. He did, however, believe that peppermint lessened the dyspnœa. We have not yet been able to demonstrate that the peppermint is excreted by any of the emunctories under its own form.

DR. CHARLES DENISON, of Denver, Col., alluded to the serum therapy of tuberculosis. His own experiments on dogs had failed, for their serum when injected into men caused much urticaria and constitutional disturbance. Any remedy, as tuberculin, which he had used on dogs, was not necessarily increased in efficiency by being passed through an immune animal. He had given over six thousand tuberculin injections without a single abscess. He believed that our cure of phthisis must come about by our increasing the power of resistance in the given individual. This could be best brought about by climate and a high altitude. We must also render our patients immune. A German observer had noted that the red blood-cells in men and rabbits were increased sixteen per cent. in one month by a gradual change of residence from a low to a high altitude. Tuberculin is not suited for cases which have a high febrile range. But many cases on removal to high altitudes show a great improvement in capillary circulation. He had treated one hundred and twenty-seven cases with tuberculin, and of these he believed that he had cured twenty-seven. His own experience with the remedy had been satisfactory.

DR. KARL VON RUCK, of Asheville, N. C., took exception to what Dr. Parsons had called the "pre-tubercular" condition. It was in his view not only early but real genuine tuberculosis. Moreover, he did not believe that ulceration and suppuration are produced by stasis alone. The products of tuberculosis, as we find them, result not from stasis but from bacillary invasion. Experiments on animals are far too complete for us to doubt this. He did not attach much curative value to the peppermint inhalations, though he believed that they would help cough. When we consider the difficulty surgeons have in rendering any patent area of the body sterile, it is folly to suppose that inhalations of any kind can clear out the bacilli from pulmonary cavities. He endorsed the beneficial effect of high altitudes, though so many cases came to us suffering from mixed infections—from other things than pure phthisis—that it was impossible to do much for them. He thought that tolerance to increasing doses of any injected material was often mistaken for immunization, when in reality it was quite a different thing and merely comparable to the tolerance resulting from the use of alkaloidal drugs.

DR. PARSONS, in closing the discussion, stated that catarrh of the stomach was always met with in tuberculosis, and that it required careful treatment apart from all measures directed against the more formidable affection. Creosote he had not found good in gastric catarrh, and he did not use it internally.

DR. ROCHESTER added that he believed most thoroughly in increasing the resisting power of the individual; anything which reduces this is an element of the pre-tubercular condition. He did not believe in heredity, except as a poor constitution might be inherited. Some ten cases of fœtal infection were on record, but most children regarded as the subjects of congenital tuberculosis had become infected by the maternal sputa (kissing etc.), or by nursing from a tuberculous parent. It was a noteworthy fact that the so-called heredity was rarely through the paternal, but almost always through the maternal side. As to creosote, it could be palatably given in claret wine or mucilage of acacia.

Treatment of Tuberculosis with Horse-serum Injections.—DR. PAUL PAQUIN, of St. Louis, read a paper with this title. We have learned, the reader said, that tuberculosis exists in various regions of the body long before it gives any external symptoms. A patient may suffer pulmonary infection from his own glands rather than from outside sources. We are, therefore, unable to make a positive diagnosis until after the internal organs have become involved, for the commencing appearance of bacilli in the sputa is, unfortunately, not a sign of incipient tuberculosis, but rather of a distinctly progressive grade of the tubercular process.

In January of the present year the author reported to the St. Louis Medical Society the results of the treatment of twenty-two cases treated with horse-serum. The patients received one injection below and outside of the scapula daily for an average of two months. All improved and gained in weight, the gain being from one and one-half to twenty-two pounds in the course of the eight weeks of observation, and all are now living. They represented all grades of the disease, from infiltration up to cavity formation; all presented bacilli and all were distinctly emaciated. Several had had hemorrhages. Of a few additional cases since treated two had died in from three to five days after the treatment was begun, but they were hopeless when first seen. Absolutely no other treatment had been employed in all the cases. When the serum was stopped they grew worse, but improved again upon its resumption. The remedy seemed to diminish all the evidences of tubercular activity. Hemorrhages were arrested, appetite improved, cough lessened, and the venous irritability quieted. (Three patients who had been thus treated were exhibited, and an epitome of their clinical histories read.)

The remedy also seemed to promise good results in surgical tuberculosis. In one case of knee-joint disease removal of the diseased structures had been followed by serum injections with good results. As regards the production of the serum, horses were naturally immune to tubercular processes. First of all, an injection is made into the jugular vein of some culture media containing the toxins of the bacilli; when the animal ceases to react to this (as evidenced by the lack of fever and other constitutional manifestations), dead bacilli are injected, and finally living bacilli. When all reaction has subsided, blood is withdrawn from the vein, placed on ice, and the serum gradually allowed to separate. It is then filtered, and is ready for use.

It has been found that serum from a given animal varies in power after successive withdrawals from the vessels. Hence there is a variation in the effects of serum from the same animal upon patients. After a while the animal seems to develop certain toxins during the recuperation from the debilitating effects of the bleedings. Transportation seems to harm the serum, as various germs are apt to develop therein. We must not tap the horse too early after immunization, as under these conditions the serum does not seem to possess its maximum curative power. From ten to thirty minims are used for each injection, and camphor has been found to materially assist in keeping the serum in good condition. After the injection it has been observed that the face flushes and gradually becomes purplish for a period of four to five minutes, and a slight chill frequently follows. This does not always happen, and when it does occur it is probably to be explained by the fact that the needle has been thrust directly into a blood-vessel instead of into the cellular tissue. Arthritic pains have been observed, especially with patients who have previously been rheumatic. The urine is considerably diminished, and albuminuria has been observed in one case.

The discussion was opened by DR. KARL VON RUCK, who doubted whether any animal could be regarded as absolutely immune toward tuberculosis. To prove the position taken by Dr. Paquin we ought to kill the

animal and make careful pathological and bacteriological examination of its tissues. Our animal experimentation was not yet complete, and there was no proof that the serum had any power on either animals or men. Dr. von Ruck had tried Paquin's serum on guinea-pigs, and all had died within forty-eight hours. Granted, moreover, that the serum had effects on the bacilli, it was impossible to remove the results of tissue change which come from the condition of mixed infection which we so frequently find in ordinary phthisical cases. Insistence should be laid on the importance of early diagnosis from the clinical history and physical signs alone, for when we find bacilli it means that suppuration or tissue degeneration has already occurred. We should use tuberculin for its diagnostic value. The reader of the paper had spoken of the spores of tubercle bacilli. He (Dr. von Ruck) had never seen them, and, moreover, it was a matter of doubt whether this variety of germ had really true spores or not.

Dr. DeLancy Rochester, of Buffalo, called attention to the fact that many cases of phthisis recover without any treatment at all, and he could not believe that specific treatment had any place in cases of mixed infections.

Dr. Henry D. Holton, of Vermont, stated that the serum of the ass would probably be superior to that of the horse, as there was little fatality from phthisis in those countries were the milk of the ass was used. The juice from the muscle of animals in whose muscles no tubercles are found, but who have tubercle elsewhere, has been found to produce the disease; also milk from cows who, though tuberculous, had healthy udders and no bacilli in their milk.

Dr. Paquin, in closing the discussion, admitted that the serum might occasionally contain some cocci, but that they were not necessarily harmful. The same was the case with Behring's serum, and yet everybody used it. As to spores, he believed that he had seen them, as they gave the stain reactions of tubercle bacilli. The blood of asses he had no experience with; mule-serum seemed to be the same as horse-serum, but he did not deem it prudent to use it, as the former animals are very subject to a disease resembling rheumatism in man.

Pulmonary Hypertrophic Osteo-arthropathy was the title of the next paper, by Dr. N. S. Davis, Jr., of Chicago. One similar case in this country had been reported by Packard, in the *American Journal of the Medical Sciences*, in June, 1892. The European literature of the last five years contained the histories of some forty cases. The first work was done in 1890, by Marie, and the disease had since been known by his name. It had to be distinguished from acromegalia. The essential lesion seemed to be a chronic multiple osteitis of the terminal phalanges and of the ends of the long bones. The cause of the osteitis was probably some poison absorbed from the lungs or pleuræ. Cases had also been observed in connection with congenital heart disease, syphilis, and spinal caries, but in general the association was with suppurative diseases in the respiratory tract.

As to the nature of the disease several theories were held. Some regarded it as an attenuated tuberculosis, others as a trophic nerve affection, still others as due to caries of the spine, while, as above suggested, three cases had been observed in syphilitic disease. No heart or lung disease was evident in these latter, but in the spleen and liver of one case bacilli were found. Pulmonary hypertrophic osteo-arthropathy therefore was rather a symptom group and not a disease *per se*. It was probably a toxæmia from the respiratory tract.

The case described by Dr. Davis was that of a boy, aged about four, with cough and periodical expectoration of pus dating back to a pneumonia one year before. There was an enlargement of the fingers, toes, and wrists, and curving of the nails. The skin and glands seemed normal and the body was well nourished. There was no kyphosis or scoliosis. On the left side of the chest there was a bulging and immobility in respiration, with dulness, and displacement of the heart to the right, in fact, all the symptoms of a pleural exudate compressing the lung. It was believed to be purulent, and the purulent sputa were probable periodical drainings off of the exudate through a bronchus. At such times there was fever and the usual pus reaction. The symmetry of the bone and joint lesions was a feature of the disease. In previous cases the urine had been reported as normal.

As to a diagnosis from acromegalia, the latter, it should be remembered, was chronic. The enlargement of the fingers was uniform. The kyphosis, when present, was cervico-dorsal, but in the arthropathy, dorso-lumbar. The seat of the lesion in acromegalia was the pituitary body, and there were generally visual disturbances.

Dr. S. Solis-Cohen stated, in discussing the paper, that he had seen two cases which might fairly come under this category. In acromegaly the hand was broadened as a whole, while here it seemed lengthened. Kyphosis was frequently present in tuberculosis, and with his present knowledge he was inclined to regard the arthropathy merely as an exaggeration of what we commonly see in tubercular disease. The wrist and ankle enlargements are suggestive, as in acromegaly these two points are not involved. The trophic disturbances apparently led to the development of certain structures at the expense of others, and they were probably due to some pus toxin.

Measures Calculated to Modify Acute Inflammation of the Respiratory Tract was the title of the next paper, read by Dr. H. B. Sears, of Beaver Dam, Wis. The majority of deaths in acute respiratory diseases occur from excess of the mucous secretions or from heart failure. These clinical phenomena are met with in two classes of patients; first, spare people poorly nourished, whose nutrition was principally at fault; and second, stout people, with more or less cyanosis, rapid pulse and breathing, and complaining greatly of thirst. In both there was feeble heart action, with a resultant overloading of the veins and capillaries. A great mistake was frequently made in giving too much fluid to these patients. Heart stimulants alone were of limited applicability, as we could not overforce a debilitated organ. We should first purge freely so as to relieve vascular overloading, and then the exhibition of heart stimulants would be followed by gratifying results. Next, the excess of secretion should be combated. This procedure was far preferable to emesis in children, or the lancet in adults. Belladonna and turpentine were the remedies mainly relied upon by the reader to lessen secretion. For a heart stimulant digitalis was useless in high temperature, as it was not absorbed. With the plan above outlined, anodynes and antipyretics are more rapidly absorbed.

Hydrotherapy in Fevers; its Rationale and Technique, was the title of the next paper, read by Dr. A. H. Burr, of Chicago. He gave a general description of the febrile state, setting forth that the high temperature is the result of a toxic derangement of neural resistance to, and neural control of, the heat-making apparatus of the body. Too much effort had been made merely to reduce the temperature in febrile conditions. The numerous coal-tar derivatives marked the height of this craze.

In the application of the cold bath we should always bear in mind the physiological action of water. It is a neural stimulant; it affects the sympathetic nervous system and thereby exercises a direct control over the glandular system; by its reflex action it has a marked influence upon circulation, respiration, metabolism, elimination, and pyrexia. Winternitz has shown that after a cold bath there is increased leucocytosis, increased hæmoglobin, and increased specific gravity of the blood. Thayer had shown similar results in examining a drop

of blood taken from the ear of a patient who had received cold baths. The increased leucocytosis was too marked to be explained by cell proliferation. It was probably due to the fact that the increased circulatory activity swept out into the general current the cells which had become lodged in the various corners of the vascular system.

Dr. Burr then exhibited a wooden frame to be placed over the bed for bathing febrile cases. Under the patient was slipped a rubber-sheet, which had tapes on its sides. These were brought up over the frame and fastened thereto, so that a tub was improvised capable of holding twenty gallons of water, which after use could easily be siphoned out. The whole apparatus was portable and easily manipulated.

The discussion was opened by Dr. N. S. Davis, Jr., of Chicago. He did not believe that bathing shortened the course of fevers, but it did lessen danger and made the patient more comfortable. A rise of temperature meant toxic absorption. The so-called typhoid state was found in other diseases than typhoid fever. It meant perverted metabolism, and we should remember that we are treating this state rather than one of infection.

Dr. Boylan, of Pittsburg, Pa., insisted upon the importance of keeping the skin thoroughly clean in all febrile states, and this is one of the good effects of the bath. He declared that death would result in three hours if the respiratory function (so called) of the skin was completely checked.

Dr. Webster, of Chicago, doubted the truth of this last statement. Death had ensued in animals whose skins had been coated with varnish or similar substance, but it had been due to loss of heat. If the varnished animals were enveloped in cotton, or their external heat kept up, they did not die.

Dr. C. G. Stockton, of Buffalo, heartily endorsed the position taken by the reader of the paper, and made a plea for the use of the bath in small communities.

Dr. S. Solis-Cohen thought that any sheet-arrangement is disadvantageous in that it brings merely small pools of water in contact with the patient. The good effects of immersion were thereby lost. Dr. Burr's device was doubtless next in utility to a tub.

Dr. F. B. Turck, of Chicago, believed in baths of water at 95° raised to 115° F., or until there was marked dilatation of the superficial vessels. Then the patient should be rubbed down with ice, and cold water applied in douches with the syringe. In conditions of passive congestion such a procedure would restore the equilibrium of the circulation.

Dr. DeLancy Rochester, of Buffalo, insisted that the most important thing in bathing was the continuance of gentle friction over the body during the entire immersion. The water was more important as a nerve tonic than as an antipyretic.

Dr. James Tyson, of Philadelphia, said that most of the cases which had died during his practice under bathing had succumbed to perforation or hemorrhage. He was a firm believer in the bath.

Dr. J. M. Anders, of Philadelphia, while an advocate of bathing, believed that there were contra-indications thereto. As soon as intestinal hemorrhage occurred he stopped the bathing for a while.

Dr. Burr, in closing the discussion, said that he believed that the Brandt method, while not curative in every case, did nevertheless alter the entire aspect of typhoid fever for the better. He believed that the profession in America was culpably negligent in not using it more generally.

Atypical Gout.—The closing paper of the session, by Dr. James Tyson, of Philadelphia, was entitled the "Symptomatology of Irregular or Atypical Gout." His object was to insist upon accuracy in nomenclature. He alluded to the recent views of Garrod and Roberts to the effect that the causative uric acid existed in the blood in the form of a quadriurate of sodium. There was no difficulty in diagnosticating typical frank gout, but there was often trouble with the incomplete form. Among the atypical gouty manifestations noted were dyspepsia, deposits of lithiates in the urine, eczemas, muscular pains, deep-seated pain in the tongue, crackling feeling about the cervical spine, pains in the back of the neck and loins, adductors of the thigh and gastrocnemia; also articular pains and nodosities, headache, pains in the palms of the hands, folliculitis of the nose, scleritis, keratitis, conjunctivitis, asthma, bronchitis, tonsillitis, pharnyngitis, dryness of the tongue; also inflammations of the bladder and hemorrhages thereinto. There was also a cerebral gout, characterized by a capriciousness, melancholia, insomnia, and changes of temper. He laid especial stress upon the importance of recognizing a possible gouty cause in cases of vesical hemorrhage.

He would in the diagnosis of a suspected case lay special stress upon the following points: 1. A condition of uricacidæmia, but it was rarely possible to diagnose uric acid in the urine with the means in the hands of the general practitioner. 2. The superventon of regular gout on the subsidence of other ailments or alternations between the two clinical conditions. 3. A history of previous typical gouty attacks. 4. Heredity. 5. A history of exposure to lead poisoning. 6. The general habits and mode of life of the patient. 7. Scanty and highly colored urine. This might also occur in lithæmia. 8. Glycosuria. 9. Chronic interstitial nephritis, which was the fatal goal toward which all these other symptoms invariably led. 10. The result of therapeutic measures.

Dr. Stockton did not believe that lithæmia led to gout in all cases.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

Third Day, Thursday, May 9th.

Present Status of Treatment of Fibroids of the Uterus by Electricity.—Dr. A. Laphthorn Smith, of Montreal, stated that while he thoroughly believed in the operative treatment of fibroids of the uterus, he still saw good in the electrical treatment in certain cases. Electricity is not suitable for every kind of case nor for every kind of doctor, but it is as true to-day as it ever was that for the cure of pain and bleeding, the positive pole of the galvanic current, properly applied, is in the majority of cases effective. The percentage of successes is greatest in those cases in which the fibroid growth is interstitial; it is not quite so great in the sub-mucous variety, although in some cases it has been followed by the expulsion of the tumor from the uterine cavity. The plea for the early treatment of fibroids by electricity is quite as just as that for operative treatment, and even more so. It is entirely devoid of danger, which we cannot say of the operative treatment. One serious objection to the electrical treatment is the length of time it takes to apply it properly. The present status of the electrical treatment is not as good as it should be because it has been tried by men of insufficient experience and therefore been found wanting. The fact, first mentioned by Apostoli, that electricity produces a febrile reaction when the tubes are badly diseased, is of diagnostic value. It is not true, as has been claimed by some, that applications of electricity cause adhesions.

In conclusion, Dr. Smith said that although at present the tide of surgery is in its full flow, the time will yet come when electricity will find an honorable place in the treatment of women who wish to keep their ovaries.

The Treatment of Hemorrhagic Conditions of the Uterus by Zinc-amalgam Electrolysis.—Dr. G. Betton Massey, of Philadelphia, read a short paper on this subject, in which he advocated, in the galvanic treatment of hemorrhagic endometritis, the use of an intra-

uterine electrode composed of zinc freely amalgamated with mercury. By this means the zinc surface is always keep smooth, lubricated, and non-adhesive, and a new value is attained in the use of a nascent oxy-chloride of mercury in addition to the oxy-chloride of zinc, with far more efficient alterative and antiseptic results.

Diseases of a Reflex Nature Arising from Pathological Conditions of the Uterus and Appendages.—Dr. W. H. Humiston, of Cleveland, O., read a paper on this subject. Among the more prominent reflex phenomena mentioned by the author which may be the result of pathologic conditions of the uterus and its appendages were the following: Anæmia, headaches, fulness of the head, neuralgia, neurasthenia, pain in the spine, insomnia, epilepsy, nausea and vomiting, dyspepsia, obstinate constipation, gastralgia, irritable heart, pain in rectum, frequent and painful micturition, general irritability, inability to walk, eye symptoms, hysteria, and hypochondriasis. The conditions of the pelvic organs in women should always be carefully ascertained, or else one is likely to err in his diagnosis of the symptoms complained of. In conclusion, Dr. Humiston reported a number of cases of this character coming under his observation.

Remote Results of Removal of the Uterine Appendages.—Dr. E. E. Montgomery, of Philadelphia, read this paper. The author stated that the most marked influence of this operation is upon the nervous system, and is the result of the fact that the climacteric, which is always a critical period in a woman's life, has been abruptly induced, without nature having had an opportunity to prepare her for the changed relation. Among the nervous phenomena that have been noted in these patients are the following: Neuralgia, neurasthenia, pain in various regions of the body, insomnia, restlessness, and irritability of temper. Even if the individual may have had no desire for offspring, the assurance that motherhood is denied her frequently leads to intense longing for a child. The declining sexual appetite not infrequently leads to a profound melancholy. Changes in pigmentation have been observed. The nervous phenomena may be actuated or aggravated by the sequelæ of the surgical procedure, such as fistulæ, ventral herniæ, painful cicatrices, intestinal adhesions, cellular exudations, etc. The conclusions drawn by the writer were as follows: 1. No mutilation or sacrificial operation should be done where there is a reasonable probability of relieving the inflammatory condition through vaginal incision and drainage. 2. Efforts should be made to preserve portions of an ovary and a tube through resection, where partially diseased. 3. Where the ovaries and tubes are diseased to such a degree as to require their complete removal, the patient is less likely to suffer from profound nervous phenomena if the operation be associated with hysterectomy. 4. Castration should be done for neuroses only after it has been demonstrated by the experience of capable neurologists that the operation is the *dernier ressort*.

Dr. Henry Newman, of Chicago, said he has never seen a case in which removal of the uterine appendages produced insanity or an outward physical change in the patient; nor has he seen it result in any sexual deterioration. He expressed the opinion that before the operation is performed, its possible ill results should be carefully placed before the patient. Furthermore, it should only be performed for actual structural changes in the appendages.

Dr. Ward, of Kansas, said that where healthy ovaries are removed in young women, very marked nervous symptoms are produced. He has never seen insanity result from it, however, nor a loss of the sexual appetite. The operation is usually followed by a very troublesome leucorrhœa. In all cases it is well to postpone the operation as long as possible. We shall probably see the time when, where ovariotomy is demanded, the uterus will be removed also.

Dr. Rufus B. Hall, of Cincinnati, said he has frequently seen patients suffer from mental depression for temporary periods following the removal of diseased appendages. In one instance, insanity followed. In that case the patient was of a hysterical character, and there was a family history of insanity, two of her sisters having died in an insane asylum.

Dr. Massey said he has seen a number of cases in which physical and nervous disorder followed the removal of the ovaries. In one instance it produced melancholia. In many cases, after the removal of the ovaries in young girls, a change is produced in their moral nature; the sexual feeling is not extinguished, and they can gratify it without running any risk of becoming pregnant. He has never seen an extra growth of hair on the face or elsewhere result from the operation.

Dr. Howard A. Kelly said that when a woman asks him what bodily changes will follow the operation, he tells her that she will get stouter, that she will look better and feel better. The possible loss of sexual power does not militate against the performance of the operation, because these patients are usually in such a condition that they have not enjoyed sexual intercourse for years. On the contrary, the operation often restores the family relations.

Vaginal Fixation in Retro-Deviations of the Uterus.—Dr. X. O. Werder, of Pittsburg, read a paper on this subject. He stated that this is the newest addition to our operative treatment in the backward displacements of the uterus. It is the result of a gradual evolution of Schücking's method, and its modifications by Zweifel and Sänger, and was originated in its present form by Dührssen and Mackenrodt, both of whom claim priority. Dr. Werder then described the technique of this operation, and stated that the failures that have been reported are due to the fact that the fixation sutures were inserted too low down in the body of the uterus. In order to guard against a return of the malposition, the fundus must be sutured to the vagina. Dührssen, in all his more recent cases, opens the peritoneum as soon as the bladder has been separated from the uterus, and this permits the operator to see the exact point where he wishes to insert his sutures, which is at the fundus between the cornua. Dr. Werder stated that up to the present time he has performed vaginal fixation of the uterus by the intra-peritoneal method seven times without a single failure, although they are all too recent to justify an opinion as to the permanency of the result, all of them having been operated on within the past seven months. In all cases, the operation of vaginal fixation should be preceded by a thorough curettage.

The intra-peritoneal method of vaginal fixation, termed "vaginal cœliotomy," by Dührssen, has, besides permitting of a more satisfactory fixation of the uterus, the great advantage that it allows the fundus to be drawn down to the vulva and outside of it, and with it the adnexa, which can then be carefully examined, both by touch and visual inspection.

Extra-uterine Gestation; Its Early Diagnosis and Treatment.—Dr. S. L. Jepson, of Wheeling, W. Va., read a paper on this subject. The following were his conclusions: 1. Extra-uterine gestation is probably always primarily tubal; the ovarian is a possible rare exception. 2. Diagnosis before rupture may often be made with reasonable certainty. In some cases it is impossible. 3. Diagnosis after rupture can in most cases be made so certainly as to justify opening the abdomen. 4. Electricity—preferably galvanism—should be used when a diagnosis is made before rupture, unless the patient can and will secure the services of an expert operator. 5. Cœliotomy by an experienced abdominal surgeon is always proper in early unruptured cases. 6. After intra-peritoneal rupture with free hemorrhage, the abdomen should be promptly opened and the tube grasped near the uterus. The operation may be com-

pleted at once or delayed to restore the patient, as her condition requires. 7. After rupture into the broad ligament, abdominal section is not urgent, and often is unnecessary. 8. While condemning operations by the inexperienced in cases of no urgency, yet an emergency may arise after intra-peritoneal rupture, when cœliotomy by the inexperienced may become a duty, but this should never be resorted to without counsel.

Dr. A. H. Goelet, of New York, said he did not think an operation was demanded in every case of extra-uterine pregnancy. In the first place, the necessity of the operation is the danger of rupture, and that danger is removed if the death of the fœtus is accomplished. That can unquestionably be done by electricity. If rupture has taken place between the folds of the broad ligament, it is admitted by some of our best authorities that it is comparatively harmless and may be left alone. He has had several cases of this character, and they resulted very satisfactorily by leaving them undisturbed until the ruptured vessels sealed up, and then, where necessary, emptying the sac through the vagina. In this way we avoid opening the abdominal cavity. Statistics show that even when the hemorrhage occurs within the peritoneum it is seldom sufficiently severe to demand cœliotomy for its arrest. Of course no one would hesitate to open the abdomen in cases where the bleeding is very severe, but if it has ceased it is far safer to let it alone.

Dr. Rufus B. Hall said it is often difficult to decide whether rupture has occurred between the folds of the broad ligament or directly into the peritoneal cavity. In fifteen cases coming under his observation, a diagnosis of rupture into the broad ligament was made in every instance, and they were treated as such for varying periods; later on, in operating for the removal of the blood-clot, it was proven in every case that the rupture had occurred into the peritoneal cavity. We should assume primarily in these cases that rupture has occurred into the peritoneal cavity and be governed by the condition of the patient as to when we shall operate.

Dr. James E. Reeves, of Tennessee, said that these cases are not infrequently met with in small country towns, where the assistance of an experienced surgeon cannot be readily obtained, and he expressed the opinion that in such an emergency any physician who has an ordinary knowledge of the anatomy of the parts and who has the boldness to use the knife should not hesitate to operate. While he has personally had but little experience with electricity, he did not think it should be relied on in extra-uterine pregnancy.

Dr. A. Lapthorn Smith said he was in favor of operating for extra-uterine pregnancy as soon as the diagnosis is made. He regarded it as one of the easiest of the abdominal operations.

Dr. Tod Gilliam, of Columbus, O., said that while there is nothing easier than an operation for a simple case of extra-uterine pregnancy taken early, there is nothing more difficult to handle than a complicated case that has been going on for some time. Such a case requires all the knowledge and dexterity of an expert.

Drs. J. M. Coble, of Dallas, Tex., and John M. Duff, of Pittsburg, continued the discussion, which was then closed by Dr. Jepson.

Suspensio Uteri; the Proper Method of Performing it, and its Results.—Dr. Howard A. Kelly, of Baltimore, read a paper on this subject. He stated that he prefers the name "suspensio uteri" to that of "ventral fixation," because the uterus is not fixed at all; on the contrary, it is freely movable after the operation. The indications for the operation are extreme local discomfort associated with retroflexion which cannot be relieved by local treatment. Other indications are where there is general prostration, headache, and the neurasthenic condition associated with the retroflexion which produces more or less local discomfort. Up to the present time he has performed the operation in one hundred and seventy cases. Of these, none died. There were stitch abscesses in three cases. In one case (in which the appendages has also been removed) there was secondary hemorrhage in the abdomen; in one there was transient mania. Bladder symptoms were noticed in four cases. In almost every case operated upon there was considerable relief, and the vast majority of them have gone on to a complete and satisfactory recovery of health. A number of the patients have since become pregnant and been successfully delivered. In one case the uterus remained in place for two years and then again became retroflexed. Dr. Kelly then described the technique of the operation, which he stated was very simple. It consists essentially of stitching the posterior wall of the uterus to the abdominal wall by means of silk.

Notes on two Cases of Pelvic Surgery Intended to Throw some light on Ventral Fixation.—Dr. H. R. Holmes, of Portland, Ore., read a paper with this title, and reported two cases upon which he had operated by Dr. Kelly's method. He also regards the operation as very valuable in certain extreme anterior displacements of the uterus.

Dr. A. Lapthorn Smith said he was very much indebted to Dr. Kelly for this operation, which he has now performed twenty-six times without any mortality rate and with very gratifying results. He referred to the importance of scarifying the peritoneum and anterior surface of the uterus for the purpose of favoring adhesion. He employs a permanent sterilized silk ligature in stitching the uterus to the abdominal wall. The organ is quite movable after the operation. He considers it preferable to Alexander's operation.

Dr. Reuben Peterson, of Grand Rapids, said that in seventeen cases he has suspended the uterus by means of the ovarian ligament, which method was recommended by Dr. Kelly before he devised the present operation. In all excepting two cases the result was very satisfactory.

Dr. Hall said he has done the operation a number of times and was very much pleased with it.

Dr. J. H. Carson, of Detroit, said that in ordinary cases of retroflexion without any adhesions he did not think ventral fixation was required. They can be treated by mechanical means. Some of these women do not complain of any symptoms whatever. The operation is called for, however, when there is displacement due to disease of the appendages. He was surprised to hear that Dr. Kelly still employed silk for ligatures in these cases, and thought it would be better to employ some absorbable material for that purpose.

Dr. McConnagle, of San Francisco, said he has performed the operation a number of times with very good results. He does not think it is necessary to scarify the tissues.

Dr. Ward said he did not agree with Dr. Carson as regards the benefit of mechanical treatment. Even where there is no apparent disease of the appendages you may keep on treating these patients mechanically for an indefinite period without doing them much good.

Dr. G. R. Feil, of Cleveland, referred to a case in which fatal secondary hemorrhage followed the performance of the operation.

Dr. Kelly, in closing the discussion, said he now employs the posterior surface of the uterus instead of the ovarian ligament in suspending the uterus, because it is a little easier and quicker. The results by both methods are about the same. With an absorbable suture the uterus will only remain forward as long as the suture holds.

Symphyseotomy.—Dr. Hugh Hamilton, of Harrisburg, Pa., read a paper on this subject, and illustrated the same by means of a number of drawings.

The Therapeutic Action of Chloroform in Parturition.—Dr. Bedform Brown, of Alexandria, Va., read the paper. The author stated that in spite of the fact that

chloroform is so universally employed in obstetrical work, and often so carelessly administered, very few accidents have resulted from its use. This he attributed to the fact that coincident with the growth of the fœtus and placenta there are developmental changes in the maternal circulatory and vasomotor structures to supply the increased demand made upon them; the power of the left ventricle of the heart is increased, as well as the arterial tension, and this prevents the cerebral anæmia which always precedes collapse in fatal cases of chloroform narcosis.

Dr. Brown said he regarded the use of chloroform justifiable in every case of confinement where the labor is slow and painful. He has never been able to find a good substitute for it. In many instances it facilitates the process of parturition. The amount given can be carefully graduated, so that it will relieve the pain without impairing the strength of the uterine contractions. Its well-known power to relax muscular rigidity also facilitates labor.

The Vaginal Route for Operations on the Pelvic Viscera.—Dr. Tod Gilliam, of Columbus, O., read a paper on this subject, in which he referred to the advantages and disadvantages of operating by the vaginal route, as compared with the abdominal. Among the advantages of the former are that it leaves no scar, there is no danger of a subsequent hernia, the abdominal viscera are not handled, and the fact that many women will submit to it who will not allow the abdominal incision. He expressed the belief that, in spite of these advantages, the vaginal route will never supplant the abdominal one, nor in a large measure infringe upon it. With a narrow, deep, or unyielding vagina even the easier operations are rendered impossible.

Treatment of Contractions or Stenosis of the Uterine Canal.—Dr. W. A. B. Sellman, of Baltimore, read a paper on this subject and exhibited an instrument which he has devised for the purpose of removing such obstructions. The instrument is made in different sizes, and works very much like a pencil-sharpener, paring away the tissues in slices.

Officers.—The following officers were elected for the ensuing year: *President*, Dr. Joseph Taber Johnson, of Washington, D. C.; *Secretary*, Dr. Reuben Peterson, of Grand Rapids, Mich.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 2, 1895.

Joseph D. Bryant, M.D., President, in the Chair.

Memorial Services for the Late Alfred Lee Loomis, M.D., LL.D.—Addresses were delivered by Lewis A. Stimson, M.D., Rev. Henry M. MacCracken, D.D., LL.D., Chancellor of the University of the City of New York, and Hon. Abram S. Hewitt, LL.D, Ex-Mayor of New York City. The large hall was filled to overflowing by the many friends and admirers of Dr. Loomis from among the profession and laity. A more forcible example of the influence of Dr. Loomis's mind over the minds of his fellow-men could hardly be given than that of its power, even some months after his death, to determine the character of the addresses delivered on the occasion of these memorial services. While eulogistic, eloquent, earnest, and sincere, it was evident that the speakers had been inspired by that strong attachment for the man which all felt who had ever been brought in friendly relations with him, and that the deceased's own love for statements limited strictly to truth and facts had restrained them from undue adulation.

Dr. Stimson spoke more particularly of Dr. Loomis's work in connection with the medical department of the university, with other medical institutions, and of his professional career; Chancellor MacCracken of his interest in the collegiate department of the university; Mr. Hewitt of his services to the Health Department of the city and of his public spirit, while all dwelt upon his earnestness, vigor, power, practicality, upon his moral worth and attachment.

Dr. Loomis was born in Vermont, began practice in New York at the age of twenty-three with no resources but his moral and intellectual powers, and even with these hampered by a body which already showed the early symptoms of a disease, pulmonary consumption, which had robbed him of his parents and immediate relatives. Poverty was not his chief incentive to labor, for long after having acquired a competency he was still accomplishing an amount of work of which few men were capable. It was ambition. He had once said to Dr. Stimson on a public occasion that he would never rest until he stood in that man's place; and if the vow failed of literal fulfilment it was only because, when the prize was fairly within reach, it proved, like so many others which have blazed before the eyes, much less worth having than it had seemed. Other interests had arisen, other obligations had been assumed, other laurels had been won which were greater.

Dr. Loomis was from the first looked upon as a man of great promise, and he was successful from the start. He was always at work, always energetic, and his energy was eminently practical. At one time he had some thoughts of taking up surgery, but was soon found giving special attention to physical diagnosis and diseases of the heart and lungs. His success was such that he became Teacher of Physical Diagnosis in the College of Physicians and Surgeons. But his health now broke down, and his fear that with his hereditary history he would not survive thirty seemed likely to be realized. He left the city and went to the Adirondacks. After staying there six months his health was restored and he re-entered upon his professional career. Profiting by this warning, every year thereafter he spent some months in the mountains, and through his example this region became a favorite resort for invalids with pulmonary troubles. It had led to the establishing of a sanitarium at Saranac Lake, under the direction of Dr. Trudeau, and more recently of a home for consumptives which, through Dr. Loomis's influence, was aided by the gift of $60,000 from Mr. Morgan.

Dr. Loomis's greatest work was in building up the University Medical College, having succeeded to the chair of Dr. Metcalf, in Practice of Medicine, in 1866. The college was then at low ebb, had lost its building by fire, and its students, drawn largely from the South, by the recent war. Within five years Dr. Loomis had become its virtual head, within ten years it had reached the highest pitch of prosperity which it had ever known, and more recently, through his influence, it had been cleared of debt and a magnificent laboratory had been added. It was his energy, his push, his reputation, his purse which had sustained the school in its darkest days.

Dr. Loomis accomplished similar results in various other fields. He had been largely instrumental in giving Bellevue Hospital its excellent service. Probably no member of the profession was as often asked to aid by his recommendation or his active support candidates for hospital and dispensary positions, and with good reason, for he made the applicant's cause his own, and fully shared his disappointment in defeat if not his elation in success. He took an active part in medical society work, in the management and in the scientific discussions. He had been chosen President of various medical bodies, including the New York Academy of Medicine and Congress of American Physicians and Surgeons. When spoken to about office his answer was, "I should be gratified to be chosen, but I will enter upon no contest for it. I will not even be a candidate." When he became President of the Academy the work of completing the new building, as in every other work which he undertook, was always on his mind. The subscription-book lay open upon his

office table, and no patient worthy the effort lost an opportunity to subscribe.

Mr. Hewitt thought his wonderful success in soliciting subscriptions to worthy purposes was due less to the donor's interest in or knowledge of the cause advocated than to his implicit faith in Dr. Loomis. He knew that the gift would be used exactly as represented, and that the object must be a good one to enlist Dr. Loomis's effort. Mr. Hewitt spoke of his love of nature—of the woods, the mountains, the sunshine, and pure water. Both he and Chancellor MacCracken referred to his essentially religious nature. He had no theological doubts. He loved and labored for his fellow-men.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

ROYAL COMMISSION ON TUBERCULOSIS — THE OPIUM AND HEMP DRUGS REPORTS — MEDICAL SOCIETY — PARACENTESIS OF CHEST THIRTY-SEVEN TIMES — SCLEROMA NEONATORUM.

LONDON, April 27, 1895.

REPORTS of commissions are to the fore this week. Precedence to the Royal Commission on Tuberculosis. The results of this important investigation will be received with serious attention and perhaps excite such grave apprehension that legislation may follow. The commission is satisfied that an appreciable part of tuberculosis in man is contracted through his food—that is, the meat of tuberculous cattle. There is danger in such food, from any diseased organs unremoved in dressing, and from minute tuberculous deposits in the tissues of the muscles. Worse than this, particles of tuberculous matter are carried to healthy parts and to joints of healthy carcasses on the knives and cloths used by the butchers in dressing. This is a most alarming conclusion, for in spite of suggestions in the report to minimize the danger, is it likely that we can ever inspire ordinary butchers with the dread of germs and the details of aseptic cleanliness which even some surgeons find it difficult to perfectly follow?

"Sterilize your food!" some will exclaim. But even this is not so easy, for the commission reports that although cooking will destroy infectiveness on the surface it will not affect particles in the interior. In the case of rotted joints any particles smeared on the surface would necessarily be carried to a point where cooking would not destroy them. This is certainly a most disquieting conclusion. Still perhaps, something can be done. At any rate there can be no reason why we should not adopt all the precautions which other countries have found practicable. Legislation will no doubt be called for, though the commission does not expect much from this. Still, it is a question for legislation as well as one on which the public needs instruction.

The Royal Commission on Opium and the Indian Commission on Hemp Drugs have also issued their reports. Both are a surprise to many, the conclusions being in direct opposition to the statements so commonly made as to the evils of these drugs and the extent of their use or abuse.

On Monday last, April 22d, at the Medical Society of London, Dr. S. West related the case of a woman, aged thirty-one, sent to him with a history of having fluid in the chest and abdomen for eighteen months. On tapping the abdomen no fluid returned. He next tapped the pleura and removed ninety ounces of clear fluid. The fluid reaccumulating, paracentesis was repeated at frequent intervals for nearly twelve months, the operation being performed in all thirty-seven times, the fluid remaining serous throughout. With grave misgivings he consented to the chest being opened. An empyema developed, and for a time her condition was critical, but ultimately recovery set in and from that time was uninterrupted. The side rapidly contracted and the lung expanded, and at present the side is completely healed.

Dr. Hall held that it was always undesirable to open the chest in cases of simple serous effusion, a rule from which even the successful issue in this case would not induce him to depart. He himself had tapped the chest in one case thirteen times, and would tap "seventy times seven," if need be, so long as the fluid remained clear. If the fluid became purulent, he said it would probably be the fault of the operator. He recalled some statistics published by Dr. Barre, of Leeds, who showed that half the cases of simple effusion died of pulmonary tuberculosis, whereas of the patients suffering from empyema phthisis constituted but a fraction of the deaths. He inferred therefrom that the conversion of a simple into a purulent effusion could not *per se* facilitate the supervention of tuberculosis.

Dr. Coupland suggested that an obstinately recurring effusion was presumptive of its being dropsical rather than inflammatory, of which he gave an instance.

Dr. Routh said that the opening of the abdomen in cases of abdominal tuberculosis as a result of a mistaken diagnosis has been often followed by cure, and he failed to see any reason why the same thing should not hold good of pleural tuberculosis.

Dr. West said, in reply, the advice given in text-books to abandon paracentesis after two or three trials followed by recurrence required to be modified, for no risk attached to repeated paracentesis if the operator was careful to keep his instruments aseptic. He pointed out that in abdominal tuberculosis simple tapping was often enough to determine a cure, so that there was no necessity to open the abdomen.

Dr. A. Garrod related the case of a child first seen when aged five weeks, who at birth presented the characteristic lesions of scleroma neonatorum, the indurations commencing on the buttocks and spreading to other parts of the body. The child was otherwise in good health, and ultimately recovery took place. He commented on the fall of temperature observed in these cases, and discussed the differences between this condition and that of œdema neonatorum. The treatment adopted comprised inunctions of cod-liver oil and blue ointment, but he pointed out that in all probability the mercurial treatment did not do more than expedite recovery, and was not to be taken as evidence of the syphilitic origin of the disease.

Dr. Keser mentioned that he himself had gone through a severe attack as a child, having recovered under the influence of warmth, without mercury. He called attention to a number of incomplete and abortive cases which had come under his observation during the last few years.

Dr. Colcott Fox said that while in typical cases it might be possible to distinguish between scleroma and œdema neonatorum, a differential diagnosis might be difficult and even impossible in less well-marked cases.

Dr. Colman urged the fallacy of attributing the disease to syphilis from the effects of a mercurial treatment. A syphilitic history is usual in œdema neonatorum as distinguished from scleroma neonatorum, and in two cases he had demonstrated post mortem marked evidence of visceral syphilis within a fortnight of birth.

Suicides in France are increasing actually as well as relatively. The annual average for the years 1861–65 was 4,661, or 12 per 100,000 inhabitants; for the years 1871–75, 5,276, or 15 per 100,000 inhabitants; for the years 1881–85, 7,339, or 19 per 100,000; and for the years 1886–90 the yearly average was 8,226, or 21 per 100,000.

OUR PARIS LETTER.

(From our Special Correspondent.)

ACCIDENTS CAUSED BY SERUM-THERAPY — SERUMPATHIE IN CANCER—OPENING OF THE COURSE OF MEDICINE AT THE COLLÉGE DE FRANCE, ETC.

PARIS, May 10, 1895.

SERUMPATHIE, which has hitherto deserved so well of the profession, is, it seems, not always free from accident and danger; nevertheless thousands of cases have been treated by injections of serum since the discovery of the method by Behring and Roux. It has now fallen to Dr. Romniciano, of Bucharest, to publish two observations of accidents caused by this treatment in stridulant laryngitis resembling croup. They are sufficiently interesting to merit the attention of the profession in the United States, and are briefly as follows:

A child was affected with fits of coughing, suffocation, and croupal tirage, accompanied by a slight redness at the back of the throat; temperature, 38.5° C. The next day cough and tirage were less, with mucous sibilant râles in the chest; no trace of false membranes when a first injection of serum was given. The third day (forty-eight hours after the injection of serum) bilious vomiting, eruption resembling urticaria upon the body, polyuria, hæmaturia, and the urine loaded with albumin. Temperature, 38.8° C. Treatment: Mixture of chloroform water with muriate of cocaine and sirup of ether; suppositories of quinine and dry cupping over the lumbar region. The urticaria and hæmaturia lasted two days; the temperature, oscillating between 38.8° and 39.2° C., only fell to the normal one week after the injection, in spite of the daily exhibition of bromohydrate of quinine.

The second case was that of a boy five years of age, suddenly seized with croupal cough, laryngeal tirage, aphonia, and upon the tonsils patches of diphtheritic appearance, in which the bacteriological examination revealed the presence of numerous streptociques, cocci, and bacteria having some analogy to those of Loeffler. A local treatment was instituted, painting with salicylated glycerine, phenol spray, and for general treatment quinine per orem and an injection of serum. The next day, temperature normal; four days later, cured. Two weeks after, pains in the haunches; temperature, 38° C. Salicylate of soda was prescribed for what appeared to be the beginning of an attack of articular rheumatism.

The next evening less pain, but a temperature of 39° C. and a general rubéoliforme eruption. The diagnosis of measles is made. However, the temperature remains at 39° C., the patient coughing little; no redness of the palate, and after rubbing the skin with the hand apparition of patches of urticaria; nothing in the urine.

The temperature rises that same day to 39.4°, then to 39.8° C.; the patches of urticaria extend. Tremblings in the limbs, trismus, and vomiting are observed. Some hours afterward the rubéoliforme eruption pales, but the urticaria persists; then everything disappears except a slight redness around the point where the injection was made and great exhaustion of the child.

Such clinical facts are fortunately rare, but as the treatment by injections of serum becomes more general they become more frequent, and it is quite certain that in the pathogeny of their complications the rôle of the serum was an active one.

As an offset to this we note that Drs. Richet and Héricourt consider serumpathie equally applicable to microbian and infectious diseases generally, notably to cancer. A woman in the service of Professor Térrier, suffering from a fibrosarcomatous tumor adherent to the sixth, seventh, and eighth ribs, was treated by injections of serum. The growth, which was certainly of a cancerous nature (*recidive* on the cicatrix of a former operation), was ameliorated and cured by the injections.

The second case was in the service of Dr. Reclur at the Hôpital de la Pitié. Diagnosis, cancer of the stomach, and treated in the same manner; diminution of the growth, which finally became imperceptible as an isolated tumor.

Drs. Richet and Héricourt see in those two cases a proof that the cure of cancer has been obtained by the anticancerous serum. Notwithstanding such eminent authorities as all the gentlemen concerned are, subsequent clinical facts will be necessary to justify any such conclusion.

Professor D'Arsonval took possession of the chair of medicine on May 1st at the Collége de France. The audience vigorously applauded the distinguished professor, who will continue to study the physiological and therapeutic effects of the electric current, and give the results of his researches to his class and the profession at large. The aperiodical galvanometer is his latest discovery, and now universally used for fine work. He is at present giving considerable attention to alternating currents of the highest possible frequency.

ON THE PHYSIOLOGICAL ACTION OF PERIODIC INDUCED CURRENTS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I would like to say in reply to Dr. Rockwell's letter, in your issue of May 4th, criticising my article upon the "Action of Periodic Induced Currents," etc., that up to 1889 upon my return from Europe there was not a satisfactory induction apparatus made in this country, and, furthermore, there was no suggestion to guide the manufacturer in the construction of such apparatus which would be suitable in every respect for the physician. At that time the best fine-wire coil made in this country was wound with No. 32 wire, and contained only about six hundred yards. Finding, by actual experiment with this and other forms of induction apparatus in the market, that they were unsatisfactory for my purpose, I experimented with coils of different sizes and lengths of wire, and finally suggested a combination of coils or windings which would be suitable for all purposes where induction currents were employed. The results of my experiments were set forth in the form of a suggestion for the manufacture of such apparatus in an article entitled "The Action of the Faradic Current in Gynecology," which was read at the first annual meeting of the American Electro-Therapeutic Association, held in Philadelphia, in September, 1891, and published in the *Times and Register* November 7, 1891. In this paper I made a suggestion also that a rheostat or controller be placed in the circuit of the generating cells which supplies the primary, as the best manner of governing and controlling the current during its application. No such suggestion had been made up to this time, nor had the combinations of coils therein suggested ever been approximated. The suggestion made in that paper was that one coil be composed of No. 36 wire, containing 1,500 yards, divided so as to give a current from three lengths of wire, viz., 1,500, 1,000, and 500 yards. Another coil was to be wound with No. 32 wire, containing 800 yards, so divided as to give three different lengths of wire, viz., 800 yards (full length), 500, and 300 yards. There was to be a third coil composed of No. 22 wire, 250 yards long, and a fourth coil composed of No. 18 wire, 100 yards long. The same combinations of coils will be found described also in my book "The Electro-Therapeutics of Gynecology," published by George S. Davis, Detroit, in 1892.

It would appear from Dr. Rockwell's letter that I was appropriating what he seems to feel was a suggestion made by him. A certain manufacturer in this city devised, many years ago, what was then an improved faradic apparatus which I employed prior to the time referred to above, and found very unsatisfac-

tory because it did not produce the desired effect for my class of work, and its construction was protected by patents.

I will say further, that this same manufacturer asked my permission, about two and a half years ago, to wind upon one spool all the different lengths and sizes of wire, as I had suggested, arranging them so as to give the same lengths and the same results, stating that his reason for desiring to construct an apparatus in this manner was that it would make it more compact and convenient. Permission was granted him upon condition that he would only continue its manufacture if I found the results derived therefrom were as satisfactory as with my apparatus as originally constructed with interchangeable coils. After careful experiment I have found that this arrangement is satisfactory. A cut of this apparatus appeared with my recent paper.

If Dr. Rockwell described in the *New York Medical Journal* of May 13, 1893, and August 18, 1894, "the only improvements that have been made in the construction of these admirable coils," it seems evident that he must have taken his suggestion from my article referred to above, which was published in 1891.

A. H. GOELET, M.D.

May 4, 1895.

AN UNSUCCESSFUL MALPRACTICE SUIT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: As I have just experienced all the anxieties and fears incident to a suit for malpractice, and carried it to a successful issue, and believing that any injurious effect to the profession or myself will be best met by the widest publicity, I herewith append details of the case. The patient was an old rheumatic subject whom I had attended for two or three years at various times, and was probably never free from pain.

June 3, 1891, I was called to attend Mrs. Annie E. Harris, of Dunton, who was suffering from muscular rheumatic pain in the left leg of sufficient severity to confine her to bed. I prescribed for her and called the next day, when she was able to come down-stairs and get about in a rolling-chair. At the next visit, June 7th, I found her again in bed suffering quite severe pain. I was told that she had struck her heel against the rolling-chair and had been compelled to go to bed because of the great amount of pain occasioned thereby.

I examined the limb, could find no evidence of injury except a tender point below the middle of the tibia which was painful on movement and when the heel was pressed against.

I visited her again on the 10th, 13th, and 17th, at which time she was going about in her rolling-chair as before. My visits were three weekly until July 24th, when my attendance ceased.

There had been gradual improvement right along, and at the time of my last visit she was able to go about the house by pushing a chair in front of her, using the back for a support. Could go up and down stairs with assistance. Improvement still continued, and a little later she could walk about the grounds.

During August she walked to the railroad station a number of times,[1] went to the city shopping, and in the latter part of August or early September went to Boston on a visit, where she remained until the following spring. While there she spent a number of weeks in a water-cure establishment and was treated *secundum artem*.

After returning home she was treated by a number of physicians, and was finally seen by Dr. Jarvis S. Wight, who, upon examination, found a solution of continuity in the left tibia with the bone-tissue very much softened. Suspecting malignant disease he advised amputation, which was accepted, and the leg was removed at the knee. The entire bone was softened and diseased, and at the point of separation the bony plate was thin as ordinary writing paper. There was erosion of the lower end of the femur, and evidence of beginning disease in the opposite limb.

[1] Distance about a quarter of a mile.

In July, 1894, I was served with a summons and complaint in a suit for malpractice, damages being laid at $25,000.

The plaintiff alleged that at the time of striking her heel during my attendance in 1891 she sustained a fracture of the left leg, which I failed to recognize or treat properly, and because of its non-union and my neglect the condition was produced for which her leg was amputated.

The case came up for a hearing before Judge Bartlett in the Supreme Court at Long Island City, January 8, 1895. We were ready and anxious for trial, but were disappointed. On motion of plaintiff's attorneys, Brooke, O'Sullivan, and Brooke, accompanied by an affidavit of the attending physician that the lady was suffering from acute rheumatism and unable to appear, it went over for the term.

It was again on the calendar for April, before Judge Barnard, and was called for trial April 17, 1895. Counsel on the other side tried the same dodge as before, but failed, their motion was denied and case ordered on trial. Upon their refusal to comply, and at the request of my counsel, the case was dismissed with costs and an extra allowance of $500 for counsel fees—being a judgment in my favor of something over six hundred dollars.

To my call for aid, my friends responded nobly, and I desire publicly to thank the gentlemen who stood by me in my time of trouble—Doctors Jarvis S. Wight, George R. Fowler, Walter B. Chase, Jerome Walker, Arnold W. Catlin, of Brooklyn, and Louis N. Lanehart, of Hempstead. For the able management of my defence, which was invincible, all credit is due to my attorney, Henry A. Monfort, Esq., of Jamaica, N. Y.

The thanks of the medical profession are due Judge Joseph F. Barnard for his eminently just and summary disposal of the case.

SAMUEL HENDRICKSON, M.D.

JAMAICA, N. Y.

New Instruments.

A LIGATURE STERILIZER WITH A THERMOSTAT.

BY V. P. BLAIR, M.D.,

ST. LOUIS, MO.

THE following is a brief description of a sterilizer, or digester, in which any fluid for the preparation of catgut may be kept at, above, or below its boiling-point for any length of time with safety, without attention, without the slightest waste of fluid or fuel, and without that very objectionable feature, the necessity for the condensation of vapor. The latter point was the object of the experiments of which the following is the practical result.

The principle involved is that the pressure of a given volume of gas, at a given temperature, in a given space, is constant. Inversely we have the temperature of this given volume of gas, in the same space, at the given pressure, constant. Here we have a constant and direct ratio between pressure and temperature. This fact is utilized in substituting pressure for temperature in the manipulation of a thermostat.

In a closed cylinder the pressure due to the expansion of a vaporized fluid, or the heated air above this fluid, in forcing down one column of mercury in a U tube, raises the other, which, acting in a thermostat, maintains an exact relation between the flow of gas and the pressure. This idea will be developed more clearly in the description which follows.

The apparatus which the cut illustrates consists of an air-tight cylinder, a tripod, a Bunsen burner, a thermometer, a stop-cock, and a thermostat with a U tube attached. The cylinder, or boiler, is of sheet copper (six inches high), with a heavy brass flange around the opening, and ground flat upon the upper surface, upon which the cap rests. The cap is of heavy (⅛ inch) sheet brass, beaten to a dome shape, and with the under surface of the flared edge ground flat and exactly corresponding to the flange of the boiler. Between these a rubber ring is inserted for packing, while pressure is obtained by brass loops attached to the boiler and riding over inclines on the cap. This makes an air-tight joint, which is absolutely necessary to the carrying out of the scheme. The cap has two holes with flanges for the reception of perforated rubber stoppers and is fitted with a stop-cock. Into these stoppers are inserted the thermometer and thermostat.

The thermostat consists of a small, heavy glass tube, doubly bent upon itself, with the lower end open and the upper end expanding, for the extent of two inches, to several times its calibre, and closed with a doubly perforated stopper. Into these openings enter two L tubes, one plain and the other (the longer) drawn to a fine opening, cut off obliquely, and having a capillary opening in the side. The lower bend of the tube and the two portions leading to it are filled with mercury. The lower free end is inserted into the perforated stopper in the cap of the boiler. The action of this will be explained presently.

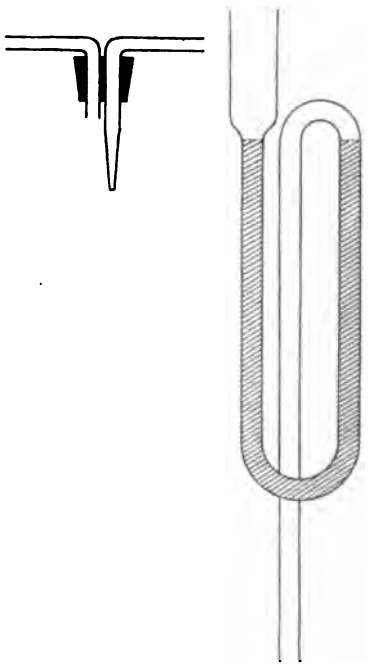
An ordinary Reichert's thermostat, with the tube bent as above described, and the lower end opened, will answer perfectly. The stand is an ordinary tripod; the Bunsen burner is also standard, but has a small piece of wire gauze inserted into the upper end to prevent the flame from descending to the base—this is important. The distance between the upper end of the burner and under surface of the boiler should be at least four inches. The several parts are placed in position as represented in the cut. One of the L tubes running into the upper end of the thermostat is connected with the gas-tap, the other to the Bunsen burner by means of rubber tubes, and the burner is lighted.

Now as long as the stop-cock is open the gas passes freely in and out of the thermostat without any interruption, and the temperature in the boiler will continue to rise, as indicated by the thermometer, until the boiling point of the fluid is reached. If, at the boiling-point, or at any point between that and the temperature of the surrounding atmosphere, the stop-cock is closed, a change at once takes place; the boiler is rendered air-tight, the pressure developed by the expansion of the vapor or air contained, forces up the mercury in the thermostat until it comes in contact with the oblique opening in the L tube and restricts the flow of gas. By this means a proportion between the flow of gas and the pressure is maintained, and a constant temperature is the result.

Now, if the arms of the U tube are long, say eight inches, and they are only filled to the height of five inches, then, when the mercury reaches the cut-off tube, there will be a difference of six inches between the levels of the columns. A six-inch column of mercury means, roughly, a little less than three pounds pressure, and, in this case, the temperature will rise a definite amount after the stop-cock is turned. Thus the fluid may be maintained above its boiling-point. If, on the other hand, it is so arranged that the difference between the two levels is slight, then very little pressure is required to interfere with the flow of gas and the temperature at which the stop-cock was turned will be the result.

When it is desired to discontinue the process, the cock is first opened and then the gas shut off; if this precaution is neglected, the contraction of the vapor will draw the mercury into the boiler.

If the capillary opening in the side of the cut-off tube is too large it will allow enough gas to pass to keep the fluid boiling, regardless of the fact that the lower opening is closed by the mercury. In this case the opening must be made small, or a sand-bath inserted between the boiler and the tube. The latter precaution will be of use when the fluid used is ether; also, when ether is used, cork or fibre packing and stoppers must be employed.



The sterilizer represented was made by Messrs. Holekamp, Grady & Moore, of St. Louis. A perfectly satisfactory one can be made, as the original model was, of a water-bath and a Mason jar, with a stop-cock, a thermostat, and a thermometer inserted into the lid by means of corks and flanges obtained from ordinary ether cans.

This apparatus has been in use for about six months and has given perfect satisfaction. The only incident worth mentioning that has occurred, served to demon-

strate that this thermostat is also a perfect safety valve. While in use in a hospital here a new cut-off tube, with too large an opening in the side, had been inserted into the thermostat; the alcohol continued to boil regardless of the fact that the lower opening was closed by the mercury. When the nurse who was operating it saw this, she became frightened and fled, expecting the roof to follow her. After some time had passed and nothing startling had happened, curiosity overcame the better part of valor. She returned and found the boiler cold, the light out, and the flow of gas completely obstructed by the mercury which had been forced out of the thermostat into the supply-tube.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 18, 1895.

	Cases.	Deaths.
Tuberculosis	94	101
Typhoid fever	6	2
Scarlet fever	63	13
Cerebro-spinal meningitis	1	3
Measles	236	20
Diphtheria	239	36

The Day of the Specialist.—

"Two of a trade can never agree,"
The proverb said of old;
And never a doctor could there be found
His brethren to uphold.
But now they dwell in harmony,
And I'll tell you how 'tis done;
The doctors have split their trade, d'ye see,
There's a slice for every one!

Chorus:

It takes nine doctors to cure a man,
Tho' a ninth of a man he be!

The winter winds have harmed your throat,
You must go to Dr. B.,
"Your stomach is wrong," he calmly says,
And passes you to C.
You mention to C. that pain in your eye
That worries you night and day.
"An oculist's case," he quick replies,
"Just call upon Dr. J."

Too much Burgundy has blossomed out
In the joint of your great toe;
Now where is H., so famed in gout?
To him you must swiftly go.
And when with doctors and bills you're vexed
Till all your nerves succumb,
To minister to a mind perplexed,
Another M.D. must come!

At last you're near your latest breath,
You find yourself laid low;
The faculty are in at the death,
To give you leave to go.
But what's the matter among them all,
They can't exactly tell.
For "diagnosis," who but X.
Can answer the question well?

And now life's fitful fever is cured
By a greater doctor still;
The patient is sleeping well at last,
The heirs have read the will.
But e'en in his tomb, his friends report
A specialist's care he'll need.
The "Alienist" Z. must appear in court
Lest his cranky bequest succeed.

—*The Pittsburg Post.*

Professor Helmholtz's Library has been bought by direction of Chancellor von Hohenlohe for the Imperial Institute of Technical Physics in Berlin.

Compulsory Vaccination.—Dr. Quine, of Chicago, in a paper read before the Illinois State Medical Society, reminded his hearers that vaccination was introduced to the attention of the medical profession by Edward Jenner, in 1798, as the result of investigations which extended over a period of twenty years. During the century preceding, according to the estimates of authoritative writers and statisticians, small-pox, "the most terrible of all the ministers of death," destroyed in Europe alone fifty million human lives. Five hundred thousand deaths every year from the most loathsome pestilence known to man; thirteen hundred deaths every day, nearly a death every minute for a hundred years. If it be true, as is believed by enlightened people, that universal vaccination and revaccination, efficiently done, will put an end to all this desolation and horror from epidemics of small-pox, and finally eradicate the disease altogether, it would appear that the discoverer of vaccination is the greatest benefactor that mankind has known. Alexander was great. Cæsar was great. Hannibal was great. Napoleon was great. They were all great—as destroyers. What have they done? What have all the kings and potentates and warriors of earth done, in comparison with one member of the medical profession in the direction of adding to the sum total of human happiness and human life? Are such conceptions of the possibilities of vaccination an idle dream?

Increase of Drunkenness in France.—The increase of drunkenness is attracting attention among sociologists, legislators, and medical men in France. At the recent Scientific Congress at Caen this question occupied an important place in the discussion. At a special congress of the Ligue Contre l'Immoralité Publique, held at Lyons, the repression of alcoholic intemperance was one of the principal subjects under consideration. Dr. Legraine, chief physician to the Asile de Ville Evrard, read a remarkable report, in which he said that drunkenness is leading France to its ruin. Dr. Pierret, chief physician of the Brou Asylum, and Clinical Professor of Mental Diseases, treated the question of what he terms "unconscious drunkards" who are never drunk, but daily drink more alcohol than the animal economy can tolerate. Dr. Motet minutely described the morbid conditions resulting from an abuse of alcohol, in most instances leading to crime. Dr. Rey, chief physician of the Marseilles Lunatic Asylum, stated that Marseilles, which was formerly remarkable for sobriety, is now no longer entitled to this distinction. Formerly one asylum was sufficient for four departments—the Bouches du Rhône, Var, Gard, and Corse; now it scarcely suffices for the needs of the Marseilles population. There are three hundred children in the City School feeble in mind and infirm in body, who are unable to derive benefit from the education given them. There are as many more children whom the school cannot take. Dr. Rey concluded by saying that, if the evil is not checked, he fears France will become a prey to cretinism.

The Absorption of Odors by Milk.—Dr. Parville relates some facts upon this subject. If a can of milk is placed near an open vessel containing turpentine, the smell of turpentine is soon communicated to the milk. The same result occurs as regards tobacco, paraffin, asafœtida, camphor, and many other strong-smelling substances. Milk should also be kept at a distance from every volatile substance, and milk which has stood in sick-chambers should never be drunk. The power of milk to disguise the taste of drugs—as potassium iodide, opium, salicylate, etc.—is well known.—*Gaillard's Medical Journal.*

The Blood in Melancholia.—From a study of thirty-five cases, Dr. Whitmore Steele concludes that in melancholia, acute and chronic, there is a marked deficiency in the number of hæmacytes, and that the

percentage of hæmaglobin is reduced in like proportion. A number of the cases showing crenation of the hæmacytes at first are found much less crenated after tonic treatment. Tonic treatment is markedly efficacious in this disorder. Iron alone, or with quinine and strychnine, seems equally effective. Although melancholia may not be caused by impoverished blood *per se*, this condition almost invariably exists, and in a large majority of cases improvement of the mental symptoms is coincident with improvement in the general health and in the quality of the blood.—*American Journal of Insanity.*

Children of Young Mothers.—In a paper read before the Congress of Hygiene at Budapest, Professor Körösi, the well-known statistician, stated that the proportion of deaths among children from weakly constitutions, or maladies traceable to the mother, was twice as large among the children of mothers under twenty as among the children of mothers over thirty, upon a comparison of several thousand cases.

The Status of Ether in Germany.—Bruns (*Berlin Klin. Woch.*, No. 51, 1894), in commenting upon the steadily increasing popularity of ether in Germany—a popularity based on statistical study which shows how much safer this agent is than chloroform—calls attention to the fact that there is a beginning reaction in favor of the more dangerous agent on the part of a few surgeons, these men holding that, although Gurlt's statistics conclusively prove that the immediate danger of ether is many times less than that of chloroform, the remote danger is greater when ether is administered, and that from broncho-pneumonia entirely due to the irritating effect of ether vapor upon the lungs, patients frequently perish who would have been saved had chloroform been employed. Thus, Czerny says that he frequently saw light cases of bronchitis and emphysema after ether narcosis. These usually cleared up quickly, but sometimes ran into serious bronchitis and bronchorrhœa, and in some cases even into severe broncho-pneumonia. This last complication occurred in a number of patients who could not expectorate the mucus which accumulated in the throat because abdominal operations rendered coughing extremely painful. He states that he lost two patients on the eighth day from this cause, both these patients being entirely free from bronchitis before operation and the wound running a sterile course. Mikulicz, after a six months' trial of ether, abandoned it, because he observed a number of light cases of bronchitis and two cases of pneumonia. Poppert has described a case of ether death due to œdema of the lungs, and has collected six other cases in which death occurred following lung congestion after etherization. Poppert ascribes all these deaths directly to the ether, and comes to the conclusion that if statistics were collected in which all the late effects rightly belonging to this agent were included, it would be found to be twice as dangerous as chloroform.—*Therapeutic Gazette.*

The Premium on Quackery.—Medical science is sadly hampered by the crude theories of the masses. Far as it lays behind other departments of science it dare not move forward as fast as it could or would if the public would let it. No doctor dare do for his patients the best he might because he knows it would mean instant dismissal from the case. A premium is set upon quackery by even well-educated men and women. The most successful doctors are those who take more pains to treat the friends of the sick than they do to cure their patients. To please the well is the secret of success in medical practice. If it was possible to determine the proportion of successes to failures in the treatment of the sick by each medical man, the world would open its eyes in astonishment. It would be found that those whose patients most frequently recover are by no means the ones with the largest practice or who can command the largest fees. He is the most successful one whose personal appearance is pleasing, who has the greatest ability in appearing to agree with influential friends concerning the nature of the disease and the line of treatment. He must espouse their crudest notions and do nothing to shock their prejudices. Where his judgment tells him that nothing should be done further than establishing hygienic conditions he must pander to their folly and write a prescription. He always does the best he dare for the sufferers, but the amount of benefit he can bestow varies with the violence and character of the prejudices he has to meet. A man whose nature will not permit him to waver from what he knows to be for the best interests of his patients, is constantly the subject of adverse criticism and doubt. Where success promptly crowns his efforts he gets some praise. Where there is delay and no prompt signs of gain he is usually dismissed amid disrespectful criticism from those he has failed to please.—Dr. Albert S. Ashmead, in *Pop. Sci. News.*

The Governor of New Hampshire has vetoed a bill appropriating $100,000 to be used in preventing the spread of tuberculosis among cattle. The disease is said to have prevailed to an unusual extent during the past year.

BOOKS RECEIVED.

Diseases of the Heart and Arteries. By John H. Clarke, M.D. Small 8vo, 195 pages. Illustrated. Published by E. Gould & Son, London, England.

Epitomes of Modern Surgical Progress: For Students and Practitioners. Urinary Surgery. By E. Hurry Fenwick, F.R.C.S. Small 8vo, 219 pages. Illustrated. Price, 4s. Published by John Wright & Co., Bristol, England.

The History of the Pennsylvania Hospital. 1751–1895. By Thomas G. Morton, M.D. 8vo, 575 pages. Illustrated. Published by the Managers of the Pennsylvania Hospital. Philadelphia, Pa.

Twenty-eighth Annual Report of the State Board of Charities of the State of New York. 8vo, 576 pages.

On Diseases of the Vermiform Appendix. With a Consideration of the Symptoms and Treatment of the Resulting Forms of Peritonitis. By Herbert P. Hawkins, M.A., M.D. 8vo, 139 pages. Illustrated. Price, $2.25. Macmillan & Co., New York.

Ectopic Pregnancy. Its Etiology, Classification, Embryology, Diagnosis, and Treatment. By Dr. J. Clarence Webster. 8vo, 233 pages. Illustrated. Price, $3 75. Published by Macmillan & Co., New York City.

The Extra Pharmacopœia. By William Martindale, F.C.S., and W. Wynn Westcott, M.B., London. 16mo, 583 pages. Price, 9s. Published by H. K. Lewis, London, England.

The Physician's German Vademecum. A Manual. By Dr. Richard S. Rosenthal. 12mo, 178 pages. Published by the Rosenthal Publishing Co., Chicago, Ill.

Chirurgie, De L'urethre, De La Vessie, De La Prostate. By V. Rochet. 8vo, 287 pages. Illustrated. Published by Hommage, de Editeur, Paris, France.

Indigestion. An Introduction to the Study of the Diseases of the Stomach. By George Herschell, M.D. Second edition. 8vo, 343 pages. Published by G. P. Putnam's Sons, New York City.

System of Surgery. By Francis S. Dennis, M.D. 8vo, 880 pages. Illustrated. Prices, $6.00, $7.00, and $8.50. Published by Lea Brothers & Co., Philadelphia, Pa.

The Spirit of Cookery. By J. L. W. Thudichum, M.D., F.R.C.P. 8vo, 701 pages. Price, $2.25. Published by Frederick Warne & Co., New York.

Petit Compendium Medical. By Dr. Antonin Bossu. 32mo, 152 pages. Published by Ancienne Librairie Germer Baillière et Cie., Paris, France.

Immunity Protective Inoculations in Infectious Diseases and Serum-therapy. By George M. Sternberg, M.D., LL.D. 8vo, 325 pages. Published by William Wood & Co., New York City.

Vital Statistics of Boston and Philadelphia, Covering a Period of Six Years Ending May 31, 1890. By John S. Billings, M.D. 4to, 269 pages. Illustrated. Government Printing Office, Washington, D. C.

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THE DYNAMICS OF HEREDITY.

BY HERMAN GASSER, M.D.,

PLATTEVILLE, WIS.

IN studying the forces we call heredity it will be presumed that the general principle of the conservation of energy is so completely established in the various departments of science that it may be called a law. With this general order in the world, the conception we have of life must be in harmony. The complex and complicated forces of the matter of which the organism is composed must be in an exceedingly unstable equilibrium, continually undergoing changes. It is this continuity of change or reaction and adjustment of the forces of the organism, with the external forces, that constitutes the phenomena we call life. That it is not as Foster says "a thing or body of a certain definite chemical composition, but matter undergoing a series of changes." Life as we observe it is hence only the name for the strife, or reaction, between the internal and external forces, an expression of the chemico-physical display of energy in continuity, and it is complete in proportion that the adjustment for continuing is complete. We find that an organism is a continuous and ever-changing mass of material forces. That every change in stimuli necessitates change in the organism with new adjustments. It is this adjustment of the forces in the organism that makes development and evolution possible.

The chemist in the study of the forces and energy of the elementary matter and their relations or reactions according to fixed laws has evolved many organic substances, and from the insight he has attained in their construction now has no hesitancy in stating that "there is little doubt that eventually the synthesis of even the most complex organic bodies, such as albumin, will be possible," the empirical composition of which is C_{72} H_{112} N_{18} O_{22} plus a trace of sulphur. Albumin is capable of existing in a great many isomeric forms, with slightly varying composition and properties. This is what we would expect in the evolution of albumin, for the environing conditions in different places and at different times would be slightly changed. Of the early period of our earth's existence, when it was still in its infancy, in that "Laurentian sea that existed before geologically recorded time," when physical and chemical conditions and changes of environment for complex chemical compounds existed that cannot be recalled, we can only have a glimpse by the aid of our imagination through the geological mind's eye, and by the assistance of the modern chemical laboratory where by indirect methods and by substitution we may open the little wicket to the condition of those early times. These albuminoids as they were first evolved by modification upon modification of the simpler aggregates of elementary compounds, with increasing complexity and instability, are inorganic compounds, no matter whether made in the early world or modern laboratory. There is not distinguishable a particle of the evidence we call life. No continuity of inner with outer relations, no growth, reproduction, or death. The energy of their composition is the display of the different forces that express the energy of the elements and their reaction on each other in combination. This albumin might satisfy the hunger of animals although only an "organic substance," but thereby demonstrating that the substance of organic beings and the organic substance built up synthetically by the chemist out of inorganic matter are all one and the same.

With all the skill and knowledge of the modern chemist, he cannot, except in his "mind's eye," like a plant, build up from carbonic acid, water, and nitrates carbohydrates, fat, and albumin, but most of them with some skill and great pleasure use up the manufactured products of the plants to form carbonic acid, water, and nitrates. It must be remembered, however, that "the power of forming organic combinations out of inorganic elements is not wholly wanting in the animal organism, although it is in the plant organism that its most favorable conditions are found."

That an albuminoid is highly complex and unstable, easily affected by the multiplicity of forces, is testified to by all experience. In it we find a wonderful combination of forces, the motions of which, while powerful and far-reaching, are so delicate, that with our finest senses we cannot sensate them, and constructive thought is only faintly realized by the aid of the imagination. It is the incomprehensible reality in the sense of the inscrutable forces with which we are oppressed, and when we strive to follow them in our thoughts into the ever-changing infinity of space, and find them but the web and woof of the invisible Power, we can exclaim, with Goethe, that "man is not born to solve, but only to find out where the problems begin." The molecular structure of albuminoids, like that of protoplasm, "is a complex whirl, an intricate dance" that can only be studied in harmony with modern physics, and by inference with the "mind's eye" follow the deductions of experiment into the more intricate and finer actions of molecular motion.

Let us follow this viscous watery albuminoid, as it existed in slightly varying forms and properties in the early condition of the earth's existence, when physical and chemical changes were going on with much greater rapidity than now, and note the effects the forces of the environment must have on a compound of such unstable equilibrium, distributed over the different portions of the earth, and coming in contact with the never-ceasing and multitudinous forces of wonderful constancy. Every reaction must necessarily be of a chemical and physical nature. The forces of light and heat, the daily and yearly changes of temperature, the effects of pressure, gravitation, wind, and wave, the osmotic action and chemical changes within itself, the many other forces almost infinite in variety through their combinations, for countless ages must make it still more complex. The constant and regular forces, like the sun's rays, by producing different degrees of temperature would cause currents in the medium. So the persistent pulses of the various forces would have a tendency to break up the continuity of the mass after the manner of cracking a hard-shelled nut by steady, uniform, and persistent blows, until it finally disintegrates, or the shaft of the steam-engine, that by the constant pulses passing through it becomes granular, and assumes a polar equilibrium. This breaking up of the mass into small particles by the splitting and disintegrating forces would make a change in the reaction of the forces. They would not be transmitted in the same manner. Instead of passing along the lines or paths of previous motions,

more of the energy would be expended on the little masses, for their positions would be changed and their resistance naturally would become greater. The various forces would cause them to impinge one upon another. This constant stimuli of contact would differentiate the external portion into a protective layer. The external layer becoming a little denser and firmer would produce a tendency to transmit the forces through the diameter of the mass, and from all directions the motions would converge centripetally. The forces similar in kind and constancy for geologic periods of time would make changes in the albuminoid masses. The lines of transit would become differentiated, would become easier, for the forces would go along the lines of previous motions or least resistance. The lines of transit becoming more permeable in the masses, they would more readily be affected by the molecular pulses, causing new adjustments and chemical changes. As all the reactions have a tendency to converge centripetally we would there find the maximum of changes and organization, or the nucleus with a more complex chemical composition. As each of the forces is transmitted along the established transit lines there would be a tendency to co-ordinate the motions by a more complex organization for distribution in the mass. The continued repetition and adjustment by increased organization would make the reaction of the stimuli more complex.

The forces acting on the great mass of plastid bodies would not, in all their parts, be alike. There would be a differentiation of the different parts, and they would react on each other. The pressure of wind and wave, of gravitation, and the circulation created by the varying temperature, would possibly force particles of like composition into one another, making again a different and new order of chemico-physical changes, an increased expenditure of energy, with an evolution of heat and giving off carbon dioxide that again would make a disturbance of the inner equilibrium, and start up a circulation or capillarity of its own, to adjust or equilibrate the forces within itself. This increased organization in the cell, with the habit of reacting on the environment in a certain definite though simple and rudimentary way, would be an adjustment to the surroundings. It would harmonize itself with what is going on around it. There would be a selective affinity for certain kinds of substances or food that would impel it in definite directions to secure equilibrium or satisfy its hunger and make the relation with surroundings harmonious and pleasant. While the various specializations of functions and their relations with each other are developing, there is a differentiation of the external surface, of contact, by the assistance of which the selection of things agreeable and avoidance of those of a destructive or inharmonious nature come into existence. So, by slow degrees, the primitive movements would become more rapid, which in turn again enlarges the environment with new stimuli, new reactions of external and internal forces.

The internal structure becoming more complex and assimilating the forces with greater ease and rapidity, the internal and external portions of the plastid cell would not be acted upon alike, and again start up circulating movements of its own to adjust the differences in the molecular structure. The molecular changes within, with loss of oxygen and new arrangement of inner forces, would create an affinity for oxygen-carrying bodies of similar unstable equilibrium. The increase in locomotion, in internal changes, with increased assimilation of surrounding forces, would lead to increased growth. The decomposition resulting from the stimuli of light, heat, and electricity in the cell would be other expressions of the expenditure of energy, and continued by repetition for long periods of time would become better adjusted and organized with increased growth. The amount of oxidation increases, but "the amount of oxygen that can be absorbed from the surrounding medium increases only as the surface of the protoplasm increases. Therefore, in the process of growth the mass would at some time become too great for the amount of oxygen that can be taken in by the surface. The result would be the asphyxiation of the interior part of the protoplasm. In the movements caused by the constant and severe stimulus we may suppose the organism to have extended itself to the utmost in different directions—for the less spherical its shape, the greater its relative surface—until finally the protoplasm parted and segregated into two masses. This is the first step in the multiplication of individuals."[1]

The destructive internal changes must either break up and revert back into their simple elementary composition, or adjust themselves to the surroundings by supplying themselves with the constructive forces for their continuity, and this is accomplished by division. The similarity of the conditions of the segmented masses and their relation to the same permanent stimuli of the environment would cause them to follow the course of development of the parent organization, only it would be just a little faster and easier, being better adapted and adjusted by transmitting the motions along the previous transit lines of motions. This repetition and development, continued for ages of time, tend to perfect the process and eventually become so well established that they would perform in a few moments what it took ages to accumulate in organization in the primitive albuminoid.

There would arrive a time in the growth and adjustment of the cell when the same permanent reactions of the internal with the external forces would develop an organization that would be little short of equilibrium. The changes in the cell would gradually decrease, for the continued sameness of stimuli acting upon it, and the adjustment in organization becoming so perfect, the stimuli of the external forces meet with little or no resistance. Growth is checked and the reaction of the units of the cell diminishes, so that "groups of them partially or wholly detached no longer readily rearrange themselves into the specific form." There is an internal balance of forces preventing a continuance of constructive changes. There is plenty of stored-up energy, but it is neutralized by forces that are equal. The condition of existence for continuance and growth has gone the complete cycle, and unless it finds new adjustments must die. In this unsatisfied condition the cellular organism, finding that the equilibrium of the neighboring cell is unlike its own, makes an effort to absorb it. This commingling of two masses with slightly different rhythms causes the unravelling of the forces of the two along the lines of least resistance, which is the relative adjustment of the combined forces. That the mixing of allied but somewhat different units leads to instability is demonstrated alike in organic and inorganic bodies. That the continuance of the organized cell-like body is dependent on the mixture of different broods, we are well warranted in believing, from the knowledge we have of reproduction in unicellular bodies. Nothing can more clearly illustrate this than the remarkable investigations by Maupas. He showed that by continued fission for a long period of time it gradually grew weaker, then ceased, and finally died, unless they were rejuvenated by other individuals of similar broods, when they would continue in their usual activity.

Throughout the whole series of these cell-organisms, with possibly one or two exceptions, this is the rule. In all animals a little above these simple protozoa male and female reproductive elements exist. The conjugation may be a complete fusion of two entire organisms in some, in others there is an osculation or adhesion of the two oral surfaces with an "immediate transformation of cell contents." The union of the two would be an intermediate form that would create new adjustments and relations, leading in time to more complex organization, increased assimilation and adjustment, with a larger environment. That would

[1] H. B. Orr: Theory of Development and Heredity, p. 112.

again mean new stimuli and changes with increased growth. There would also be a more heterogeneous and longer cycle of reactions, and while performed with greater rapidity, there would be a corresponding increase of time for existence to complete the chain of acquired developmental changes. With the increase of organization and specialization by differentiation of tissues there would be a corresponding differentiation and specialization of conjugation. The longer cycle of reactions in the organism means that the race-plasm does not become mature until the forces of growth and assimilation begin to balance. In the early stages there is a large excess of the molecular constructive forces, the expenditure of which means they are unbalanced. The energy is expended in special definite directions until the organism is developed, when it begins to diminish and finally approximates into a relative equilibrium that "leaves no surplus beyond that which is used up in functions." Each stage is adjusted to the then condition of existence. It unfolds in regular order until it has completed the whole cycle of its existence, "beginning in an ovule, and coming round to an ovule again . . . and after the life of the parent has become potentially renewed in the offspring, the body remains as a cast-off envelope, whose future is but to die."[1]

In following the "persistence of forces" and the continuity of their effects in the effort to reach, but never quite reaching, equilibrium, we have roughly and inadequately traced, along the primal law of evolution, that "every cause produces more than one effect, and every effect more than one change," the continuity of effects by adjustments into the mature moving and organized equilibrium of forces that ends in dissolution. Yet "while the individual withers life is more and more," for the true cycle of existence is the mature race-plasm again, that, with proper nutrition or an adjusted favorable environment, reacts on the external forces along the lines of least resistance, or the established series of reactions, and repeats the previous development in regular order from the beginning of its existence. "Each generation begins its life by responding to the customary stimuli that caused the growth of all its ancestors, and when it has finished that round of responses—that is, has attained maturity—it then stands in a new relation to its environment through the changed state of its growth," at which period we would expect changes of growth and variation. This is what really happens, for the newest variations are the last to occur. The evidence from biology, embryology, and palæontology alike shows that such is the order of growth and variation. We find the organism is built up by absorbing energy, that it is a portion of the great body of natural phenomena, resulting, like the formation of our solar system, out of the nebulous mass, from the co-ordinating and organizing tendencies of the forces that by a slow and long process is making every reaction a little easier, quicker, and more uniform, from the primitive matter and motion to the highest organized being. What we call heredity is only a shortening of the process of growth by adjustment of the forces in organization, and so doing in a few moments what it took ages to accumulate.

In the amœba the process of fission completes the simple but mature cycle of its existence, when it again responds to the same round of growth. But those germs, adjusted to a wider reaction of forces, must continue in their regular order and proper sequence throughout the whole cycle of the existence of the organization of which they are a part, before they can renew the cycle and aspire to the hope of that immortality in organization by repetition they all instinctively look for. But if there should be no individual posterity, they can console themselves with the thought that soon their individuality will be lost in the great stream of the race by geometrical division.

[1] M. Foster.

At this time in our investigation the question arises, What relation is there between the germ-cells and body-cells? This problem has been for more than a decade the battle-ground of the advocates of the various theories with varying success. If we adhere to the general conclusions herein set forth, our answer must be, None, except the general effects of the aggregate forces on all tissues, such as good and bad habits. This is, in a measure, a concise statement of Weismann's theory of continuity of the germ-plasm and its "isolation" from the functions of the body. His contention as to its distinct nature and isolation from the body-cells has necessarily forced him to accept "natural selection" by congenital variations as the sole and only method of evolution, and has burdened his theory with a host of facts that it cannot assimilate and harmonize. It clearly explains inheritance, but it must assume another relative condition to explain all the processes of evolution. The antagonistic or Lamarckian school "attribute evolution to the hereditary transmission to offspring of changes (acquired variations) caused by environment and habit in the parent," and contend that there is some form of force, like "physiological units" or matter like "gemmules," that connects the body-cells with the germ-cells, or pangenesis. This theory explains evolution, but does not furnish a particle of evidence for heredity.

The position of the two leading schools is clearly and fairly stated by Professor Osborn, himself a Lamarckian, in the following words: "It follows as an unprejudiced conclusion from our present evidence that upon Weismann's principle we can explain inheritance but not evolution, while with Lamarck's principle and Darwin's selection principle we can explain evolution, but not, at present, inheritance. Disprove Lamarck's principle and we must assume that there is some third factor in evolution of which we are now ignorant."

In the very interesting and profound Cartwright Lectures before the Academy of Medicine of New York in 1892, on the "Present Problems in Evolution and Heredity," as published in Vol. 41 of the MEDICAL RECORD, Professor Osborn stated that "the inheritance of definite changes in the somatic cells is also necessary to explain evolution," and then drifts away from the fact and its relation with the Weismann theory, and says: "Therefore there must exist some form of force or matter which connects the activities of the somato-plasm with those of the germ-plasm," that it may cohere with his Lamarckian bent of mind.

The possibilities that are in the germ-cell have a tendency to veil it in mystery, and we are disposed to burden it with potencies that are inconceivable and undemonstrable in the order of nature, and makes it difficult for us to form a conception of it in its relation to histogenesis in terms of chemistry and physics. This minute amount of energy and matter has no peculiar material or molecular structure out of harmony with all the other forms of protoplasm. That a germ-cell has no inherent possibilities of development of its own, but is absolutely dependent on its environment, must be conceded. Unless it receives energy and matter from the outside, it dies. The germ-cell, like every other specialized cell, has a certain definite molecular and material structure with chemico-physical relations, but not the "peculiar" structure of Weismann or Lamarck. Under favorable conditions the germ-cell has the capacity of absorbing energy from the outside world in a definite manner, that causes increase in its growth after the manner of evolution in general. With this increased amount of growth and energy it is changed, with a change of reactions on environment. It is no longer a simple germ-cell, but a mass of energy in continuity, changing every moment of its existence by assimilation of more energy, and each new change means a new adjustment of the forces in constructive organization that is built up out of the forces of the environment to react on the environment. It is simply

the persistence of force in continuity by organization or adjustment. The germ-cell has the power to assimilate energy after its own capacity, but as soon as it enters the first link in the chain of continuity, it is no longer a germ-cell. The specialized cells, like the germ-cells, take up energy, but their relations to the organism cause them to expend it in special definite directions that break up the continuity.

We know from the experiments of Darwin, Dr. Born, and Professor Yung that by special methods of feeding and the influence of different-colored light the average constructive forces of animals may be changed and to a certain extent determine their sex, size, and pigmentation in the skin; that the kind and amount of exercise of the young largely influence their development is recognized by our methods of training and education; that plants and animals look, act, and taste different when brought up under changed conditions of food and environment. Then witness the mechanical adjustments of animals that live in the water, on the surface, and in the air, and we must conclude, with Professor Orr, "that organisms do not become what they are in their adult form by a simple unfolding of their innate energy. Their development, and even life itself, is dependent upon and caused by the never-ceasing action of the forces of their environment."[1] The very instability of the chemical and molecular condition of organisms necessitates movement. There must be a constant interchange of forces between the organism and the external nature for continuity or life. These external forces must be converted into molecular motions within the tissues, each after its own kind. We know too that in the development of embryonic life there is the same order of chemical and physical changes, subject to the same laws of molecular mechanics that apply universally. The fact that there are regions in the body where evolution or change results with varying rapidity, as in the lower portion of the chest and in the foot in man, as pointed out by Professor Osborn, and their adjustment by new relations, habits, and organs, is in itself conclusive that there is in local portions of the organism a tendency to definite acquired variations. From observations like these all must admit, with the Lamarckians, that environment causes variations of growth, but not with them that there is a material connection between the body-cells and germ-cells. These newly acquired variations in the race we find to appear in succeeding generations just a little earlier in the life of the organism, because, by the continued action and reaction, they would tend to become a little better organized and hence easier and earlier. These variations in the local organs of the organism result from the continued repetition of the same order of stimuli. There is an organizing and distributing tendency in the single or special organs with adjustment to the continuity of the whole and the external forces. While there is no individual continuity of local organs there is persistence of specialization as a part in the stream of continuity. The special organs like the special cells expend their energy in a special definite direction, but while unbalanced for repetition their persistence appears again in the established harmony in succeeding generations as a part of the continuity, subject to the same principle that influences continuity in general. It is not a question of the material composition of the germ- or body-cells, but only of the forces which act through them. We are apt to be blinded by the assumed fact that all the powers and relations of the varied forces called heredity are encompassed in the little germ-cell $\frac{1}{2500}$ of an inch in diameter.

In the physiological division of labor specialization of function is produced at the expense of the general function. The nerve, muscle, and secreting cells in performing their special functions have special adjustments to the organism, but have lost their general equilibrium to the external forces and hence cannot repeat themselves, and die. When the same round of transformations come around again, the tendency from the preceding generation will influence the local developmental reaction. This inheritance, or better, organizing tendency is necessary, not only to explain evolution but regeneration. It is theoretically improbable and contrary to practical experience that the somatoplasm has any direct connection, or that it impresses itself in a certain definite way on the germ-plasm.

That the germ-cell is simple and of no special material or molecular complexity is evidenced by all investigations. Indeed it must be in the simple and rudimentary first stage of existence to fit it to start with the first phase of growth in the chain of associations worked out of the material forces of the world. In this first stage the changes are alike in all organisms. In the protozoa it is slow, and comprises the whole cycle of existence. As organism becomes more complex, these early changes become more rapid, for they have been most often repeated, and as they near maturity gradually become slower and more uncertain from the same cause. In the fission of an amœba the new amœbæ go through a regular cycle of assimilation and growth before they attain maturity, when they are ready to again repeat the round of transformations. This is just as true in the higher organisms. They must go through the whole cycle of transformations before arriving at maturity of germ-cells. The germ-cells are set apart in the regular order of histogenesis for the special purpose of retaining the primitive condition of existence, and the fact that they do not mature until the growth of the organism is nearly or quite complete is evidence that the accumulation and development around them must go the whole line of continuity before they complete the cycle of their growth. While the general development is going on, the germ-cells multiply into "hundreds of thousands" like themselves, and then grow to maturity. The constructive forces of the general organism and the germ-plasm mature about the same time to general equilibrium.

In some of the plants, and among lower animals, where the specialization of function is not yet highly differentiated, the cells still retain a large share of the general functions, and any part may reproduce a complete new individual. "As we ascend in the animal scale, the power is confined to the reproduction of a lost part," and in the highest is confined to regeneration only. This is what we would expect from the relative order in histogenesis, and "the only logical interpretation of these phenomena is that the hereditary powers are distributed in the entire protoplasm of the organism." In the healing of a wound or regeneration of a limb there is no "pre-existing germ of the condition or member," but they are due to the organizing and distributing power of the cells at the exposed surface. The cells assume the power of regeneration at the expense of specialization for the purpose of self-preservation. The cells revert back toward an amœboid condition and build up along the organizing tendencies, and in the course of repair begin to differentiate again in many instances into their special kinds of tissues, resulting from their varying constructive tendency. This kind of development certainly has no connection with the germ-cells and again shows that the "hereditary" powers of the specialized cells have nothing to do with the germ-plasm. The fact also that there are "hundreds of thousands" of germ-cells makes it equally difficult to translate into thought the connection between each with every part of the organism. We also find that the regenerative power follows along the same general order of development. In the specialized tissue injury means "solution of continuity" from the aggregate of activities, and a "return to the embryonic condition" after the manner described by Stricker.[1]

The arm of a man, says Spencer, buds from the side

A Theory of Development and Heredity, p. 58.

[1] International Encyclopedia of Surgery, vol. i., p. 28.

of the embryo as a tongue-shaped mass of simple, undifferentiated cells. It is the organizing tendency of the forces of these cells that ultimately differentiates into the mature arm. It is not outside the limits of legitimate speculation to say that if, in this embryonic condition, the arm was amputated, it would be regenerated in all its parts, as in the frog and salamander. The body-cells mature and differentiate early, and their special equilibrium is in a great measure dependent on the general equilibrium of the organism. They are out of tune to react on the constant and general forces of the environment, and therefore unfit for development in continuity. They are born to die. Their own specialization kills the continuity. In them, like in the germ-cells, their adjustment is dependent on a definite material and molecular structure. The germ-cells of the different plants and animals, while specialized to begin the process of development after the same simple and rudimentary method, yet have each definite chemical and molecular properties, otherwise species and genera would cross and recross. But the germs of the different species arrive at maturity under the constant change and condition each parent is subject to. The rate or rapidity of reactions must necessarily differ with each species, and as the rhythm or wave-length is unequal and unlike there can be no crossing. They neutralize the continuity by the expenditure of their energy in different directions, and break up the rhythm along definite directions. Each is strung to a different tune. Even in the same species there is variability that is more marked in the union of races brought up under varying conditions. Also in our domestic animals this fact becomes quite prominent. Every union of germ-plasm of the same species implies a rearrangement, a redistribution of matter and motion where the strength of the organizing tendencies of the parents in every part of the developing organism is in conflict, looking for supremacy of expression. Each germ-cell is specialized by the special environment under which it is matured, and while they start the process of development from the same point, the length of their courses and the rapidity of their gaits are very unequal. In some it is indefinite and rudimentary, like the steam in the tea-kettle, in others by proper direction in organization like the steam transmitted through the modern engine to various machines, differentiated into a complex organism. It is all the same force, only expended in certain definite directions, and illustrates the fact that the universe "living and not living is a mechanism, and that, as such, it is explicable on physical principles."

ON THE DIAGNOSIS OF CHRONIC DISORDERS OF THE STOMACH.

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THE object of this paper is to call attention to the indispensable necessity of a complete and, as far as possible, an exact physical and chemical examination of the stomach and its contents, in order to successfully restore to the physiological state an organ which is daily subjected to manifold dangers, in the shape of thermical, chemical, mechanical, and parasitical irritations.

To the indefatigable researches of Leube, Ewald, Boas, Rosenthal, and others we are indebted that we are at present in a position to determine the nature of the gastric contents, their activity and their digestive power, with as much clearness and certainty as if we had the whole process exhibited before us in a glass vessel. In the presence of doubt, we must by no means consider the modern teachings regarding the diagnosis of chronic gastric diseases as thoroughly exhausted.

In the year 1822 Bush used for the first time a stomach-pump to evacuate the stomach in a poisoning case. With our means at hand, it seems to me an established fact that no diagnosis of any stomach disorder can be considered indisputably correct unless confirmed by chemical and mechanical investigation. It is to be regretted that the stomach-pump enjoys very little popularity in the field of diagnosis, while its use as a therapeutic measure is quite extensive — even very often unjustly and with great disadvantage to the sufferer. After the trying list of drugs is exhausted, and all the acids and ferments, the bitters and alkalies, as well as all possible artificial nutritives—which are very often given without any definite scientific object—have failed to produce any effect, the stomach-pump is brought into use, and the stomach is "washed," without any known purpose or aim.

Let us divide the wide complex of gastric disorders into acute, chronic, primary, and secondary diseases. There is hardly any grave pathological state in the economy without some accompanying gastric symptoms. It is immaterial whether this organ itself undergoes any real pathological change or responds sympathetically to some distant reflex irritation. This apparently resistible organ gets very easily out of order under circumstances which would hardly affect other organs. In childhood this fact is most striking. In many acute infectious diseases the first onset of the malady is ushered in with violent vomiting. Indeed, there are many forms of disease in adult life in which the stomach is very often selected as a centre of action, when in reality there is no immediate derangement of that organ at all; such disorders include the masked forms of malaria, uræmia, etc. But not only acute and subacute, but also chronic diseases—and these rank here first—drag the stomach into copartnership and leave traces in this organ long after the fundamental disease has disappeared. Beside cardiac and organic circulatory disorders, as well as chronic lung and liver affections in which the circulation of the stomach is disturbed, and consequently acts noxiously upon the secretion, and peristalsis—even resulting in grave anatomical changes in the mucous membrane—there is a series of diseases which by their proximity affect the gastric wall, making the latter responsible for the ailment. Thus a past acute or an existing chronic peritonitis, itself very little troublesome to the patients for quite a length of time, may give rise to very serious symptoms by the formation in the pyloric region of short cord- or band-like adhesions, resulting in external constriction of the last-named region. I should say that such a constriction is by far more dangerous than the constriction formed by the cicatrization of the mucous membrane of the pylorus. These are the so-called "symptomatic" or "secondary" stomach diseases, in contradistinction to a large variety of primary gastric affections.

Passing over the acute affections, such as gastritis acuta, gastritis phlegmonosa, gastritis toxica, and, justly or unjustly, gastromalacia, let us divide the remaining list into chronic primary and chronic secondary gastric diseases, denominating as "primary" only those affections in which the cause of the trouble is to be found in the stomach itself, and as "secondary" those in which the cause is located in some distant organ, calling forth some gastric phenomena in the second or third instance, without, however, causing any organic changes. In connection with pulmonary emphysema, I call stomach affections secondary if certain gastric symptoms originate in some changes of circulation in the vena cava inferior without any essential changes in the secretory or motory functions. On the other hand, I shall consider any gastric symptom as a "primary" affection, in case the physiological functions of that secondarily attacked organ sustain some impairment, namely, if peristaltic and especially secretory disorders take place. In such cases the primary pulmonary em-

physema is to me nothing more than a cause of the secondary stomach disorder, as well as an improper diet of long duration would be.

These facts are of great importance in the treatment of chronic stomach diseases. Let us bring the following instances: A patient is suffering from valvular disease of the heart, albumin in the urine without cylindrical casts, eructation, vomiting, anorexia, but with normal acidity of the gastric juice. The autopsy in such a case would reveal nothing but lesions of the heart and consequences of the same in the form of stagnation of the blood. The pathological changes are therefore not to be found in the kidney or stomach, but in the blood-vessels. The symptoms of the first were only secondary phenomena. A patient has valvular disease of the heart, albumin in the urine and cylindrical casts in the same (or hæmaturia), eructation, anorexia, vomiting or hæmatemesis, and diminished or increased acidity of the gastric juice. The autopsy would reveal not only valvular lesions of the heart and changes in the blood-vessels, but also a distinct nephritis, which may have been the result of a long-standing stagnation, or embolism, chronic gastric catarrh, or round ulcer, as a consequence of the altered blood circulation or emboli. In any case the stomach is anatomically changed and consequently primarily affected by the etiological factor—the valvular disease of the heart. For should we examine a kidney or the stomach as above described outside of the body without previously knowing of the existence of any heart disease, we should certainly pronounce the case as nephritis or gastritis chronica.

The first requisite in the proper treatment of stomach disorders is doubtless a correct diagnosis. Only those whose habit it is not to make a diagnosis before determining satisfactorily the exact chemical and mechanical state of the stomach will surely have found out how often mistakes are made in this direction. Very often "neurasthenia" is diagnosticated in case the patient is found to possess a general nervous disposition in connection with his gastric trouble, as though it were an impossibility for anyone to be nervous and to be suffering at the same time from gastric dilatation of a marked degree, or to be neurasthenic as the result of his suffering. If the patient complains of acid eructations alkalies are given unhesitatingly; pepsin and hydrochloric acid in case he complains of "indigestion" are prescribed, as if the occurrence of acid eructations in connection with cancer of the stomach could not simultaneously exist. The following two examples will clearly illustrate how much injustice is done to the sufferer when a diagnosis in stomach diseases is founded merely upon external examination:

A soldier, aged twenty-three, a circus-rider, was admitted to the military hospital in which I served; complained of nausea and burning in the gastric region. His appearance was pale, large boned in construction, but pretty much emaciated. He was examined, starved during several days in the hospital, and after a week it was decided that he was only feigning and ordered discharged from the hospital. On the evening before his discharge he had a severe hemorrhage, which on account of its very acid reaction was traced to the stomach. Two hours later a second and a third and then a fourth hæmatemesis occurred. Thus the feigning soldier proved at once to be suffering from round ulcer of the stomach.

The second case in my experience was a young man twenty-one years of age, of slender structure, anæmic, highly nervous, and an onanist. He had already consulted, as he said, about two dozen physicians, and had read many books regarding his disease. His condition was considered to be a form of sexual neurasthenia and nervous gastric disease. He complained of pain in the cardiac region, which was aggravated after eating, acid eructations, vomiting, and pyrosis. The stomach-pump, however, was not resorted to as an aid to diagnosis. The patient being quite an intelligent young man, I easily succeeded in convincing him of the necessity of an internal examination. I found the following: In the morning nothing could be obtained from the empty stomach. After introducing 200 c.c. of distilled water into the stomach the acidity was $0.6561 = 18$ (normal according to Leube, $0.1642 - 0.4380 = 5 - 12$). After Leube's, test-dinner (a plate of soup, a piece of bread, a steak, and a glass of beer), in four and a half hours $3.2815 = 90$ (normal, $1.5 - 2 = 40 - 56$). After the test-breakfast (a cup of tea and a roll), in one hour $2.2599 = 62$ (normal $1.095 - 1.46 = 30 - 50$). One gramme of salol was administered and no reaction followed in the urine after one and a half hours. In view of these points and of his localized pain my diagnosis was ulcus ventriculi rotundum. I pointed out the situation to the patient, but lost track of him. Some seven or eight months later I was called to see him. I found my man in a pool of blood recently vomited, three hemorrhages having occurred the same morning. I learned also that during the preceding eight months the patient had consulted at various times different physicians, and his statement that he was suffering from ulcer of the stomach was ridiculed.

A scientific diagnosis in the realm of stomach diseases is not an easy thing. First, because not every patient is easily induced to have his stomach washed without having previously used a full stock of powders and torrents of medicine. In the second place a good deal of patience is necessary, on the physician's part, to evacuate the stomach for at least three times: 1, in its empty state; 2, after test-breakfast; 3, after test-dinner; to filter the contents and then to make the chemical and physical examinations. The former difficulty I have learned to overcome in most cases by introducing the stomach-pump without letting the patient know the nature of the instrument and its purpose. In doing this I am convinced that the patient, in his ignorance, considering the rubber tube a harmless thing, will swallow the same more readily than one who knows all about the procedure. The first step being accomplished and the patient being convinced that the operation is not such a big bugbear as he might have thought, it is an easy matter to proceed with further examination. Of course, it happens that the tube is afterward brought down with difficulty, but this is easily overcome.

As to the second difficulty patience is necessary. Much would be accomplished in this respect if it were at once determined whether hyperacidia or anacidia of the gastric juice exists. Every vestige of doubt as to whether the disease is of organic or nervous origin would be at once removed. In doubtful cases the physician would be guided in which direction to turn in order to at least not do any harm to his patient. Of course it is not sufficient to use litmus-paper or nitrate of silver for examination, because the former reacts not only with hydrochloric acid, but also with all the acids, and the latter forms precipitate not only with free hydrochloric acid, but acts in the same manner with chlorides. If thus the determination of the total amount of hydrochloric acid in the gastric juice is not necessary and only a proof of its presence is desired, a tropeolin solution (a saturated alcohol-etheric solution of tropeoline) and Günzburg reagent (1 part vaniline, 2 parts floroglucin, and 30 parts alcohol) will suffice. A tropeolin solution of yellowish color will produce a cherry-red color in the presence of $0.109\ HCl = 3.0$, by which also the degree of acidity would be approximately determined. The vanilin-floroglucin solution reacts with a very small quaniity of HCl, namely, $0.0091 = 0.25$. An equal amount (2 to 3 drops) of the Günzburg solution and stomach filtrate are placed together in a white porcelain dish and gently heated over a small spirit flame; a delicate rose-red tinge appears at the margin of the liquid in the presence of HCl (at least 0.0091). In this way it is readily established in

practice: 1, whether HCl is present; 2, an approximate determination of the limit between 0.0091 and 0.109 (0.25 and 3.0).

Now the question forces itself upon us: How can an anatomical change of the mucous membrane of the stomach be differentiated from a pure functional disorder, emanating from a nervous source? The secretory neuroses of the stomach occur mostly under the form of increased secretion of HCl; whether neuroses are also encountered with diminished secretion of HCl is not yet certain; it is probable, however, that diminished secretion of HCl does not exist in connection with neuroses of the stomach. The influence of the nervous system upon the secretion of the gastric juice is not known. The innervation of the gastric wall consists of Auerbach's and Meisner's plexus, which, forming independent ganglia, communicate with the terminal filaments of the pneumogastric and sympathetic nerves (plexus cœliacus, solaris, and splanchnic nerve). The influence of these nerves upon the peristalsis of the stomach are well known, and consequently the disturbed functions of motion and sensibility are very easily explained. As to their secretory influence, however, it is only a matter of conjecture by comparison with other glandular organs. The empty stomach, under normal circumstances, does not contain any HCl, or contains only traces of it; the reaction is neutral or even slightly alkaline or slightly acidulous. As soon as some food is introduced the secretion begins over the whole surface of the mucous membrane, which is in no other way explainable than by reflex nervous irritation. In case of increased sensibility of these nerves a scarcely perceptible irritation, under ordinary circumstances, will effect an increased secretion of the gastric juice.

It follows, then, that the examination of a non-irritated, consequently non-digesting, stomach is of importance in diagnosis. Under these circumstances I am inclined to consider the so-called digestive hyperacidia as a symptomatic disorder, having its origin in the nervous over-irritation, while the hypersecretio continua, or, as it is called, gastrorrhœa acida, is to be considered as a prodroma to a chronic acid gastritis. Autopsies of the two named diseases are wanting; and it is no wonder, owing to the fact that digestive hyperacidia never leads to a fatal termination, and the gastrorrhœa acida, even if it terminates in death, shows the lesions of the well-formed chronic catarrh or ulcer of the stomach. Thus, if everything in the empty stomach is found to be in normal state, the stomach complaint is to be considered of a purely nervous nature. Of course the microscope will give us also some information as to whether there is any inflammatory process going on. A *résumé* of all this would include the following conclusions: 1. If the contents in the empty stomach are found to be free from HCl, pepsin, and mucus, the reaction neutral, an anatomical change of the mucous membrane is to be excluded, and consequently the ailment is to be considered a symptom of some indirect or nervous influence. 2. Distinct acid reaction in the empty stomach is conclusive of gastrorrhœa acida, chronic acid catarrh, round ventricular ulcer. 3. Distinct alkaline reaction in the empty stomach is proof of mucous catarrh, atrophic catarrh, or cancer. In all those forms of diseases enumerated under 2 and 3 we find, microscopically, inflammatory products in the shape of exudative white globules, the gastrorrhœa acida not being excluded; it proves that the last-named disease is also an inflammatory process.

In this connection it will not be out of place to say a word about the differential diagnosis of the chronic inflammatory diseases of the mucous membrane of the stomach.

Gastrorrhœa Acida.—In the empty stomach sufficient free HCl to digest albumin; at the height of the digestive act acidity increased even to double that of the empty stomach.

Catarrhus Ventriculi Chronicus Acidus. — In the empty stomach distinct HCl reaction and pepsin as well as milk-curdling ferment; at the height of the digestion acidity not increased or often less than in the empty stomach. The free HCl can be sometimes latent, owing to the neutralization of bile which finds its way into the stomach in a reversed peristaltic manner caused by the irritation of an excess of HCl overflowing into the duodenum.

Ulcus Rotundum gives the same chemical results as the acid catarrh, and the diagnosis is made from the duration of the disease, characteristic burning localized pain, and in two-thirds of all cases hæmatemesis confirms the diagnosis.

Mucous Catarrh.—In the empty stomach a large quantity of mucus, alkaline reaction of the gastric contents during the interval as well as the height of digestion, lack of pepsin, and milk-curdling ferment. Microscopically we find shreds of mucous membrane. Should acid reaction be present, it is due to the formation of lactic acid (to be detected by Ufelman's reagent).

In the Atrophic Catarrh no mucus in the empty stomach is found, but there is alkaline reaction at the height of digestion, lack of pepsin and propepsin, milk-curdling ferment, and pepton. Microscopically no mucous membrane shreds, but masses of bacteria.

Carcinoma Ventriculi is often the result of a mucous catarrh or round ulcer, the symptoms of which predominate at the beginning. Later on, however, the diagnosis is cleared up by the appearance of swelling, hæmatemesis, or occasionally by bringing out through the stomach-tube of some particles of the new growth.

From all this we may conclude that we are justified to diagnosticate "neurosis gastrica" only when no abnormal acid or mucous secretion takes place in the empty stomach, even if it be present at the height of digestion, as in cases of hypersecretio acida on the one hand, and insufficientia secretionis on the other. We may diagnosticate neurosis gastrica when morphological elements, such as inflammatory products, are to be found, or mucous membrane shreds, determined microscopically; also when the general state of nutrition does not sustain any impairment by the existing malady, and furthermore so long as there are no mechanical impediments in the way of alimentary passage, which may result in dilatation of the stomach. Never should the assertion of the patient have too much weight in influencing the diagnosis.

The different forms of stomach neuroses and their character are very easy to recognize; they often reveal themselves to the observer at the first glance. Whether they are motory, sensory, or secretory neuroses the treatment remains the same, viz.: strengthening of the nervous system, occasionally narcotics, neurotics, and psychical relief. Of course, the causes do not often originate in the nerve-centres or peripheral nerve-tracts. A tænia can thus give rise to nervous gastric symptoms without being discovered for months and even requiring years to be finally unmasked. Not less characteristic is the vomitus gravidarum in the first months of pregnancy, which is said to emanate exclusively from nervous reflex irritation. On two occasions I was enabled by means of the stomach-pump to obtain the stomach contents from a pregnant woman suffering from vomitus gravidarum. In both cases I found pronounced catarrhus ventriculi chronicus acidus. I am not certain, however, whether the beginning of the trouble existed prior to pregnancy or not; although, according to the patient's statements, the first symptoms appeared during pregnancy, still lack of subjective symptoms is not sufficient proof of the non-existence of a chronic disease of the stomach. I have seen one of these women since delivery, in whom no examination could be undertaken, as the woman stated she felt quite well, nor has she suffered from any gastric trouble since then.

Before I proceed any further I shall allow myself to allude briefly to the diagnosis of the motory disturbances of the stomach. It must be candidly confessed that the method used for this purpose is very inadequate, and the results obtained in this manner present marked fluctuations. Salol, which is insoluble in the acid medium of the stomach, is sup posed to dissolve in the alkaline duodenal contents and split up in the blood into its components, carbolic acid and salicylic acid, and then become excreted by the kidneys in the urine. Can anybody guarantee that the salol is dissolved immediately after passing the pylorus and directly absorbed from the duodenum? Most absorption occurs, as a rule, in the lower portion of the intestines. "On the entrance of the chyme into the duodenum, it is subjected to the influence of the bile and pancreatic juice, which are then poured out, and also to that of the succus entericus. All these secretions have a more or less alkaline reaction, and by their admixture with the gastric chyme its acidity becomes less and less, until at length, at about the middle of the small intestine, the reaction becomes alkaline and continues so as far as the ileo-cœcal valve."[1] Furthermore, the filtering and transudating power of the kidney is different in different individuals. Our object, however, is to learn by this test the time which elapses between the escape of the first and remaining portions of the food from the stomach. Finally there are forms of stomach-diseases which are distinguished by the alkalescence of the stomach contents, being therefore a suitable medium to render the salol soluble in the stomach itself, and these are the diseases especially in which an estimate of the motor function of the stomach is of great importance in regard to diagnosis. It is advisable, after all, in cases where an accurate estimate of the mechanism of the stomach is desired, to resort to the use of the stomach-pump, by means of which the exact time between the introduction of food and its escape from the stomach can be determined.

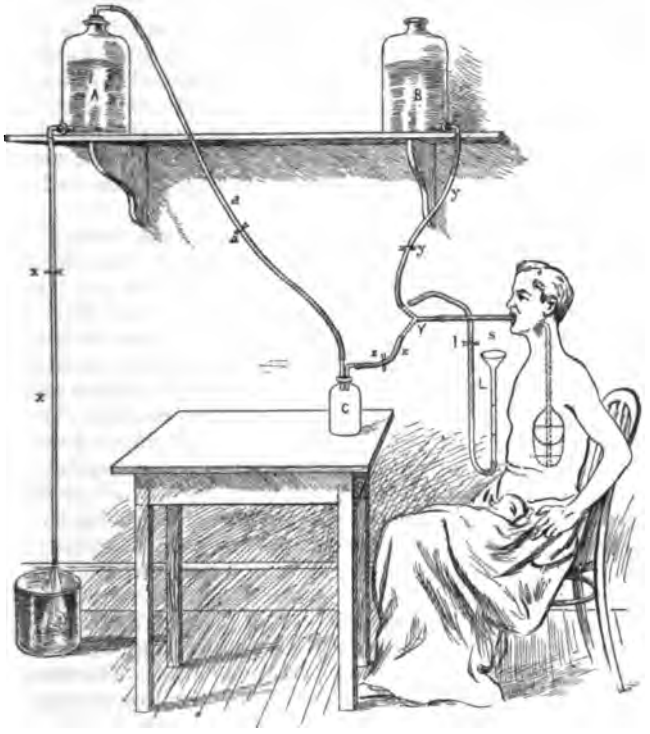
The one subject which receives a step-motherly consideration at the hands of the private practitioner is most decidedly the capacity of the stomach. Every one who takes a warm interest in stomach diseases will have found out that the demarcation of the greater curvature is often attended with invincible difficulties, and it often requires many a sitting in order to ascertain the existence of dilatation of the stomach. Thus a quart or more of the stomach contents may be withdrawn in the morning from the patient's empty stomach and sarcina ventriculi are found, both of which indicate the existence of a gastrectasia, but are in the abstract not sufficient to diagnosticate with certainty a dilatation of the stomach. Palpation is unreliable and percussion is very untrustworthy as a means of investigating the abdominal organs; likewise unreliable is the method of using an olive attached to a silk thread, which is swallowed and said to reach the lower curvature. Were it only possible to exactly determine when the olive touches the lower mucous membrane of the stomach this method might be of value. Less objectionable would be the hard-rubber sound. It is, however, very disagreeable to the patient, and the danger of perforation is present. The other methods include the pouring in of water and the inflation of the stomach with air or gas by the introduction into the stomach of effervescent powders and water. The inexpediency of both these methods is quite apparent, as the excessive weight of the water (sometimes five quarts) or the immoderate expansion of the gas may cause the lower limit of the stomach to descend farther downward, thus producing an artificial dilatation and consequently misrepresenting conditions. Besides these procedures do not always succeed easily; large quantities of water are not always retained in the stomach without reaction, the fluid is mostly regurgitated, and the feeling of tension of only small quantities of gas is so pronounced that a further expansion of the stomach is impossible. If there is also associated some morbid affection of the mucous membrane, as, for instance, atrophy, ulcer, etc., it would not be unprecedented if a hemorrhage or perhaps perforation were the immediate results of this procedure. Concerning the illuminating of the stomach with an Edison lamp, a method first introduced by Einhorn in order to designate through the abdominal wall the size and shape of the stomach, I personally have no experience, but I think that it shares the disadvantage of all the illuminators, namely, that it is too expensive to be in the hands of the general practitioner.

[1] Kirke's Handbook of Physiology.

In order to avoid all inconveniences I endeavored in a rather uncomplicated manner to determine with the greatest possible accuracy the lower limit of the stomach without thereby exposing the patient to a greater danger than the use of an ordinary stomach-pump. The apparatus is constructed upon the basis of the Rosenthal pump—which I use for the investigation of gastric contents—with a modification forming the gastro-meter proper. I wish here to remark that I do not learn by this means the cubic dimensions of the stomach space, but it enables me to determine the longitudinal diameter, namely, the distance from the cardia to the lower curvature, as well as the natural situation of the lower limit of the stomach, without displacing it artificially. As everybody may not be acquainted with the Rosenthal pump, which forms an integral part of this device, I shall describe it briefly and explain its mechanism. It is based on the vacuum principle and consists of the following parts: 1, Two large glass reservoirs measuring about eight quarts each, A and B, placed at an elevation of one yard above the examining-table; 2, one receiving bottle C. The reservoirs A and B have each an open neck near the bottom provided with a rubber cork through which a glass tube passes. Bottle B is uncovered at upper opening; bottle A has in the upper neck a rubber cork through which a short glass tube bent at an angle of 90° passes. The upper and lower glass tubes which leave the bottle A are provided with rubber tubes a and x. Tube x discharges into a vessel near the table. Tube a is connected with a glass tube passing through the rubber cork of the receiving-bottle C, the glass tube not reaching deeper than 1 ctm. into the bottle. The lower neck of bottle B is provided with a rubber cork and a glass tube from which a rubber tube y runs downward. In the cork of bottle C is a second glass tube, which (like the first) does not reach deeper into the bottle than 1 ctm. From this glass tube a rubber tube z runs. Tubes y and z are attached to the limbs of a Y-shaped glass tube Y, while the third lower branch of the Y-shaped tube is connected with the stomach-tube s. The tubes x, a, y, z are provided with compressors. Bottle A is filled with water, bottle B with distilled water or medicinal solution, bottle C is empty. All the compressors are closed in rest. If we open compressor x the water of bottle A runs out, and, on its level, a vacuum is formed and suction through the tube a is exerted. By the opening of compressor a the bottle C is acted upon by aspiration. Let us now open compressor z; the stomach contents will be aspirated into the bottle C and remain there. The more the water is allowed to escape from bottle A through x the more the stomach contents are collected in bottle C. After bottle C is filled it is emptied and again connected or replaced by another. By closing compressor x, a, z, and opening compressor y, the liquid from bottle B flows into the stomach.

Let us now return to the previous subject under consideration. To have our experiment technically correct we must first assure ourselves that the sound—it makes no difference whether only the fenestrum or a greater part of the sound—rests upon the mucous membrane of the lower curvature. This can be easily demonstrated: I let about 100 grammes of water from bot-

tle B run into the stomach, then I close compressor y and open compressors x, a, z. If my sound lies at the bottom of the stomach, the water must be sucked out. If this is not the case I then push the sound downward until the bottom is reached and aspiration of the water takes place. This done, I disconnect the Y-shaped glass tube from tube y and connect the former with a long rubber tube (1 to 1½ yard long) having at the other end a funnel, the neck of which is 1 to 1½ foot



long, L. The funnel L is raised up high and water is poured in, which flows into the stomach as long as the funnel is in an elevated position. This pouring in of water is continued as long as the patient is able to endure it, or according to the physician's judgment, the quantity being here of no importance. If a sufficient quantity of water has been introduced I lower the funnel with a quick motion without turning it. The water-column in the funnel is now at the same height as the water column in the stomach. Next I place the funnel on the anterior wall of the abdomen in such a way that the upper border of the funnel rests upon the sternum, and thus I am enabled to mark with a lead pencil on the skin the water-height in the stomach. Maintaining the funnel in the same position with its compressor closed I open the compressors x, a, z; the water is sucked out of the stomach until but little of the water remains within. Simultaneously if I open compressor l there is a drop in the water-level in the funnel. The height of the water surface in the funnel is now again marked on the abdominal wall. This point, it will be self-understood, is the lower limit of the stomach. To be more accurate, the bottles and funnel can be graduated in order to read down the quantity of water introduced into the stomach and quantity removed. In this way the limit for the normal stomach could also be drawn on the neck of the funnel, which could serve as a standard relatively representing the length of the vertical stomach diameter.

The application of this apparatus avoids one of the main inconveniences in the measurement of the stomach, namely, the artificial lowering of the greater curvature. Whatever the quantity of water introduced, no matter how much the lower wall of the stomach sinks down by pressure, it is always bound to finally return to its natural height as soon as the water is withdrawn, and the line of the lower limit is distinctly marked. Having found the lower point we draw a perpendicular line upward to the cardia. The cardia is situated behind the sternum at the point of junction between the cartilage of the seventh rib and the sternum.

The application of this apparatus is not only of advantage for diagnosis in dilatation of the stomach, but is also useful to determine the mechanical power of the gastric wall. If the elasticity of the muscular layers is not weakened, the water-level on introduction of water into the stomach will rise steadily higher and higher; whereas, in atony of the gastric muscle substance the water-level will to a certain extent sink lower and lower. This enables us then to differentiate a dilatation due to atony from other forms. Whether the dilatation is primary, or the result of constriction of the pylorus, the course of the disease and other symptoms (as swelling at the pyloric region, etc.) will teach us. Ordinarily consecutive dilatation does not occur under the form of atony, for the reason that in consequence of increased exertion the tendency of the gastric muscular layer is to become hypertrophied.

We agree with the view of Dr. Peyer, who expresses himself in his "Treatise on Neurotic Diseases of the Intestines"[1] as follows: "The more exactly and conscientiously one inquires after the causes, the more does the number of pure neuroses shrink, *i.e.*, those diseases whose foundation upon pathologico-anatomical changes cannot be proven." We must also conclude that nervous stomach affections do not occur as often in practice as is generally assumed. If we are finally satisfied, after careful examination, that the existence of anatomical changes in the stomach is out of the question, notwithstanding the presence of symptoms in that direction, we must still not leave out of consideration a series of diseases in distant organs which may be responsible for the suffering. In the first line come the changes in the female generative organs and kidney apparatus, which, it must be admitted, have no direct influence upon the functions of the stomach. This organ, however, may be drawn into coparticipation either by the way of the nerve-tracts or by accumulation of noxious substances in the circulation. In any case the stomach complaints cease when the primary disease is abolished. On a smaller scale the same is true of disturbances of the blood circulation, heart, lungs, liver. The condition of changes in the blood itself is of such a nature that the patient's as well as the physician's attention is called to it before stomach disturbances make their appearance. In a general way, however, a distant organ should never be blamed for nervous phenomena of the stomach unless there is sufficient evidence that that organ is actually responsible for it. I should never designate an intermittent stomach disorder as malaria, so long as I did not find a swollen spleen (plasmodia are hardly found in chronic forms); neither would the good services of quinine convince me of the correctness of the diagnosis; indeed, a facial and trigeminal neuralgia is almost exclusively of intermittent character, and quinine is also in these cases effective, but only those cases can pass as malarial, even when typical attacks do not occur, when there is swelling of the spleen.

Now if all possible diseases which could influence indirectly the gastric functions, or, in other words, if all the symptomatic gastric diseases are excluded, then those diseases come under consideration which draw the activity of the stomach into coparticipation by way of the different nerve-tracts, as in cerebral troubles, diseases of the membranes of the brain, and spinal diseases (crises viscerales) as well as diseases of the peripheral nerves.

In conclusion, I wish to call attention to the fact that the exact chemical and mechanical examination of the stomach and its contents is not only an indispensable means for the diagnosis of the disease, but plays a prominent part in the therapo-diagnosis, serving as a more correct measure of determining the progress of the disease or the cure. When is the patient to be dis-

[1] Wiener Klinik, 1893.

charged from medical treatment? Surely not as soon as the subjective symptoms have disappeared from the scene. The recovery of such a patient cannot be considered as unquestionably settled unless it is corroborated by the examination of the stomach contents, which must prove to be normal, and the mechanism of the stomach, which must be again restored to its normal activity. These conditions can only be objectively determined by means of the sound. Of course symptomatic and consecutive diseases follow their course according to the basis of the fundamental disorder.

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MEDICINAL INCOMPATIBILITY.[1]

By EDWARD C. HILL, M.Sc., M.D.,

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Chemical substances are said to be incompatible with other substances, if, when they are brought into contact with each other, chemical reaction takes place, with the formation of new and usually insoluble compounds. A knowledge of the ordinary mutually incompatible drugs is of great value to the practising physician, serving to prevent him from prescribing such combinations as are inert, unsightly, unstable, explosive, and poisonous.

In the generally accepted view of the matter, the appellation, chemical incompatibility, has been restricted so as to refer only to chemical decomposition with precipitation of solids or generation of gases. The well-established laws of Berthelet comprise the nucleus of the subject, and are as follows:

1. When two or more substances are brought together in solution, if by any rearrangement of the atoms a product can be formed which is insoluble in the liquid present, that substance will form and separate as a precipitate.

2. When two or more substances are brought together in solution, if a gaseous or volatile body can form, it will do so and escape as a gas or vapor.

An acquaintance with the names of the insoluble compounds of the common metals whose salts are used in medicine, is, for practical purposes, the main thing needed to an understanding of the chemical aspect of prescription writing. Such knowledge, like the multiplication table, or any other arbitrary or empirical facts, must be acquired by distinct mental effort. A few generalizations, however, may aid the memory to grasp and hold the more salient items.

The carbonates, borates, phosphates, arseniates, hydrates, and tannates of most alkaloids and metals, excepting the alkaline (sodium, potassium, lithium, and ammonium), are insoluble in water; hence any aqueous mixture containing the respective elements of which the aforesaid salts are composed would be incompatible. To cite a few common instances in this connection—washing soda (sodium carbonate) "softens hard water" by forming a precipitate of calcium and magnesium carbonates, less soluble in non-carbonated water than are the sulphates of the last-named metals, to which the permanent hardness of aqua communis is principally due. Again, a collyrium containing borax (sodium borate) and zinc sulphate presents a milky, flocculent appearance due to precipitation of borate of zinc. A very common error is the prescribing of a phosphate or phosphoric acid along with iron preparations, with the resulting throwing out of solution of phosphate of iron. The incompatibility of most common metals in relation to arsenic is attested in the case of iron, which is used as a chemical antidote in acute arsenical poisoning, and which may serve to remind you that tests and antidotes generally are incompatible with the substances for which they are employed. Nearly all metallic tannates are insoluble, ferric tannate in aqueous mixture being nothing more nor less than a blue-black ink. Tannin, or tannic acid, is in fact incompatible with nearly everything in the animal and mineral kingdom, with even albumin and gelatin, as our boots testify. Tannic acid constitutes an important part of most vegetable bitters and astringents; calumba, gentian, and quassia being the chief exceptions to its presence. The wide range of its occurrence and of its incompatibility renders the administration of drugs containing tannin a matter of extra precaution. The most noteworthy incompatibility of tannin, is the formation of insoluble tannates with the alkaloidal salts, for all of which it is an efficient chemical antidote. The deleterious effects upon digestion of long-steeped tea or coffee are mainly due to the precipitation of the digestive ferments and of much of the food by the tannic acid contained in these two beverages when badly prepared.

Continuing the enumeration of non-soluble salts, the chlorides, bromides, and iodides of silver, lead, mercurosum, and bismuth are insoluble, as are also the bromides and iodides of nearly all alkaloids. Hence the incompatibility of silver nitrate and sugar of lead with undistilled water, which always contains a variable but ponderable proportion of chloride of sodium and other metals. The fact that calomel (mercurous chloride) may be changed into corrosive sublimate (mercuric chloride) by the coadministration of any acid or salt containing chlorine, should warn us to be careful in this regard. The sulphates of calcium, barium, strontium, lead, and mercurosum are also insoluble in medicinal amounts; hence the objection to the dispensing of Epsom or Glauber's salts in lime-water, and the reason for the antidotal use of these salts in cases of acute lead poisoning. The metallic sulphides are nearly all insoluble and of a black color. The dark appearance of a patient's fæces after exhibition of preparations of iron or bismuth, for instance, is due to reaction with the sulphuretted hydrogen of the intestines, resulting in the formation of the sulphides of these metals.

The second law of Berthelet, relating to incompatibility with evolution of gases, has its most frequent application in the combination of carbonates with stronger acids than carbonic, which, indeed, is about the weakest known. Each of us probably has tried to dissolve potassium acetate and sodium bicarbonate together in a bottle containing water, and has been surprised at the active effervescence which ensued. Similar phenomena are observed on attempting to make a solution of a bicarbonate in boiling water, and on mixing sirup of squills, of which acetic acid is an ingredient, with ammonium carbonate or the compound spirit which contains it. When powerful oxidizing substances, such as nitric and chromic acids, potassium chlorate, and permanganate are brought into contact, forcibly or otherwise, with readily combustible compounds like glycerin, sugar, phosphorus, sulphur and ether—highly explosive gases (or liquids or solids) are liable to be produced, to the alarm of the patient and the discomfiture of the medical man.

A few further rather axiomatic principles remain to be stated: Acids and bases are evidently incompatible, since when brought together they always unite to form salts, which may or may not be insoluble. Stronger acids will displace weaker ones from their combinations in salts: alkaline hydrates and carbonates likewise evict the weaker bases, for example alkaloids, from their saline habitations. Glucosides, such as the glycyrrhizin of licorice root, are decomposed into sugar and other compounds by free acids or alkalies, hence we should never employ aromatic sulphuric acid to dissolve the quinine sulphate in a mixture which also contains licorice for disguising the bitter taste of the salt.

Chemical incompatibility is sometimes intentional on the part of the prescriber, and is brought about usually for the purpose of securing the compound which con-

[1] Read before the Gross Alumni Association, May 2, 1895.

stitutes the precipitate in a fresh, undecomposed state. Common examples of intentional incompatibility are "black wash," "yellow wash," and the pill of silver nitrate and opium.

By way of conclusion it may not be amiss to recall to your recollection the leading points concerning physical and physiological incompatibility. Physical, also known as pharmaceutical, incompatibility, depends upon the differing solubilities of different substances in various solvents. It is an old saying that oil and water will not mix. Water is the best solvent for most inorganic and alkaloidal salts, for gums and sugars, albumins, and gelatin; alcohol dissolves volatile oils, balsams, and resins; glycerin is an excellent excipient for borax, alum, and tannic acid; ether is the solvent for fixed oils and fats. The cardinal rule of pharmaceutical incompatibility is that the solvent power of a menstruum for a substance soluble therein decreases in proportion to the amount of the other menstruum added. For example a very little water added to tincture of camphor, or tincture of guaiac, precipitates a corresponding amount of the camphor or guaiac, making a very unsuitable mixture. Aqueous preparations, for the same reason, should not be combined directly with alcoholic fluid extracts; water added to the fluid extract of cannabis indica, for instance, will cause the resin cannabis to separate to the top of the liquid, with the result that the patient may get poisoned by the first few doses. In accordance with the above rule, also, sweet spirits of nitre, a compound ether, as you know, is physically immissible with the purely alcoholic tincture of guaiac and the aqueous solution mucilage. The medicinal aromatic waters, containing only one minim of volatile oil to the ounce, are rendered turbid by the precipitated oil on attempting to make a saturated solution of any inorganic salt. When it is necessary to combine substances soluble in water with those soluble in alcohol the pharmacist employs, under the physician's direction, acacia, yolk of egg, or some other viscid substance wherewith to emulsify and hold in suspension the oil or resin. Cow's milk is a good natural emulsion, and many medicines insoluble in water and which in a condensed form would irritate the stomach, are administered advantageously dose by dose in the former fluid. This is especially true of strong metallic drugs, nearly all of which need to be converted into albuminates any way prior to absorption. Before leaving the subject of physical incompatibility, allow me to emphasize the distinction between gums considered customarily and the term as applied chemically. In the ordinary botanical sense a gum is any vegetable exudation, and we speak loosely of gum camphor, a stearopten or solidified volatile oil; gum guaiac, a resin or oxidized oil; and of gum arabic, a true chemical gum, soluble in water, insoluble in alcohol, and capable of being converted into glucose by dilute sulphuric acid.

Physiological incompatibility, or better, antagonism, is exemplified by many of our commonest remedies: chloral and strychnine, aconite and digitalis, opium and belladonna. Were the physiological effects of any two certain drugs diametrically opposed throughout, it would of course be utter nonsense to prescribe the two together. But such perfectly adverse properties seldom obtain; we frequently combine bromides with nux vomica, and the hypodermic tablets of morphine and atropine are used in preference to those of morphine alone, since while synergistic in narcotic action, the atropine antagonizes the toxic effect of the morphine upon the heart and respiration.

A well-written original extemporaneous prescription is a work of good judgment based on scientific capability. In writing prescriptions, as in everything else, we should be sure of being right before proceeding. When doubtful as to whether a certain meditated combination is a compatible one or not, it is advisable to prescribe a single drug in the simplest excipient; but on the whole, judicious polypharmacy offers a better prospect of curing quickly, safely, and pleasantly. A very good plan, particularly in the case of readily decomposed alkaloidal salts, such as those of morphine and strychnine, is to prescribe together salts and acids containing the same negative elements (all chlorides, for instance, or all sulphates) thus precluding any possibility of chemical reaction among the ingredients of the preparation. Another common method for solid incompatible drugs is to dispense them in capsular and pilular form.

In one short paper it is manifestly impossible to take more than a bird's-eye view of so wide a subject as the one you have assigned me, but I trust the few remarks I have essayed may be of some little aid in assisting you to steer between the Scylla and Charybdis of prescription writing, namely, routine imitation, and blind, foolhardy ignorance.

A FEW OTOLOGICAL AND RHINOLOGICAL DON'TS; OR, WHAT NOT TO DO IN EAR AND NOSE CONDITIONS.[1]

By N. S. ROBERTS, M.D.,

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It is not the purpose of this communication to promulgate novelties in fact or theory. Some of the views contained herein may be at variance with the opinions of others, but founded as they are upon a somewhat wide experience in clinical and private practice, and extending over a number of years, I am convinced of their truth and importance, and that they will in the main receive the endorsement of practical workers, although time and space do not permit of much in the way of cases or statistics. Rhinology in particular has made rapid advances, and attracted more and more the attention of practitioners, and most men who aspire to be widely accomplished learn to employ the head-mirror in their practice.

It became early recognized that an important point in the treatment of nasal catarrh was to secure freedom of respiration and drainage, and in the enthusiastic efforts to accomplish this, the work of the cautery, trephine, burr, saw, chisel, snare, and plane, have often been carried to an unwarrantable extreme. In the ear, on the contrary, the sins have mostly been those of omission, so that the surgeon who is led to confess, as to the nose, that he has "done those things he ought not to have done," might say of the ear, with equal truth, that he has "left undone those things that he ought to have done," for that reason my otological don'ts will some of them take a double negative form. I shall not pretend to cover the whole ground, but to touch lightly upon such points as seem most important.

Beginning with the ear, I would say, Don't treat earache with chloroform, laudanum, or camphorated oil; they are inefficient, and may excite local inflammation; it is better to fill the ear with hot water, with or without glycerine, apply a poultice, and if pain persists, apply a leach to the tragus.

Don't advise or permit a patient with profuse otorrhœa to constantly wear cotton in the ear; it causes retention of discharge, and operates against that diligent attention to cleansing and other treatment which would otherwise be given.

Don't use the galvano-cautery in the auditory canal, it is liable to be followed by such consequences as necrosis, ulceration, otitis externa, or stenosis.

Don't blow insoluble powders into the ear, where there is a purulent discharge through a small perforation, it may appear to stop the discharge, but it does so usually by occluding the perforation, and may be followed by worse conditions.

Don't neglect to look for ear complications in all

[1] Read before the New York Medical Union, April 9, 1895.

eruptive fevers, typhoid fever, diphtheria, and low types of pneumonia.

Don't Politzerize through nares in which there is stored up foul catarrhal mucus.

Don't Politzerize with much force in sensitive patients, or those having a thin translucent drum-membrane.

Don't neglect to keep watch of the mastoid prominence in all cases of purulent otitis, and if tenderness, heat, and swelling are found, to take measures to subdue a probable incipient mastoiditis.

Don't overlook, in chronic ear disease, constitutional conditions, such as lithiasis, scorbutus, tuberculosis, and syphilis. This precaution applies likewise to diseases of the nose and throat.

In seeking to enlarge the capacity of the nasal passages, don't forget that in patients of middle age, the tendency is toward atrophy, and don't think it necessary to secure an absolutely normal capacity on both sides, at the expense of an entire turbinated body.

Don't spray the nose with powerful solutions, or only exceptionally with such as give pain.

Don't think that atrophic rhinitis or fetid catarrh can be helped by any medicinal applications, until all inspissated crusts and dried mucus have been removed.

Don't use a douche arranged on the plan of the fountain syringe; it is pretty certain at some time to cause middle-ear inflammation.

Don't cauterize a turbinated body near a point lying in juxtaposition to the septum, or operate upon the turbinate and septum at one time. The result will probably be an adhesion, and the final state of that person will be worse than the first. In the case named the snare may be used, or cautery be applied to the central interior portion of the growth by the pointed electrode, or by injection of a few drops of dilute carbolic acid or pure iodine tincture.

Don't neglect to give especial attention to the posterior nares and vault of the pharynx; aside from operative measures, it is in these regions that local treatment will prove most effectual.

Don't make strong applications to the vault of the pharynx, without guarding against the surplus fluid dropping into the larynx, and thus setting up an alarming attack of laryngeal spasm. This can best be avoided by pressing out the excess of fluid from the application, and directing the patient to take a swallow of water immediately after the application is made; a very good plan also is to wind an extra wad of cotton around the shank of the applicator at about its bend, which will catch and hold any surplus fluid which may be pressed out by the palatal contraction.

Don't under any circumstances cauterize the pharynx above the level of the soft palate. As yet I am not aware that anyone has succeeded in curing adhesions between the palate and wall of the pharynx.

Don't cauterize the septum; it will result in troublesome ulceration, or not unlikely in proliferation of tissue, producing exostosis or epichondrosis, according as it is either bony or cartilaginous tissue that has been offended.

Don't remove packing from the nose after an operation in less than thirty-six hours, or leave it in longer than sixty; the former action delays the progress of the case by causing irritation and renewed hemorrhage; the latter is needless and may result in some septic infection; don't use any but antiseptic dressings, of which the best is iodoform gauze.

Don't prescribe cocaine preparations for coryza and tell your patient what you are giving; equally good results may be obtained by the use of hydrastinin nitrate, in two to four per cent. solutions or powders, and with more enduring effect, as well as without reaction.

Don't employ tannin or iron as styptics, thereby producing tardy coagulations, difficult of removal; if anything short of plugging will suffice, it may be found in antipyrin forty-grain solution, or the pure drug, or in peroxide of hydrogen of about two per cent. volume.

I trust that these hastily written precautions may be of some assistance to those who are anxious to serve their fellow-beings in these special branches of practice.

They have been jotted down at random, as they occurred to mind while writing, and though imperfect, and perchance in some respects open to criticism, they will at least serve the purpose of drawing out the views of men whose opinions I can vouch for as worthy of the greatest consideration.

Progress of Medical Science.

A Simple and Effective Method of Keeping the Obstructed Lachrymal Duct Open.—A subscriber writes us of a "trick" worth knowing, and which he has not seen recorded anywhere in literature on diseases of the eye. The method was devised by Dr. Walter N. Vilas, of El Paso, Texas. It has been tried in a number of cases of lachrymal obstruction and abscess of the lachrymal sac with unfailing success and commends itself for its simplicity, practicability, and radical effectiveness, as well as the important consideration of abridging the treatment of these cases to one sitting. After the necessary preliminary measures of chloroform or cocaine, and the slitting of the canaliculus when demanded, a small-sized probe, armed with a canula, is passed through the canal; the probe is then withdrawn leaving the canula in place, and through this is passed a strand of silk-worm gut, the lower end being brought out through the nose. The canula is now also removed, and on to the lower end of the silk-worm gut is fastened by pincers a split shot of aluminum (lead will answer), and this is pulled up until its further progress is obstructed, and another shot is now similarly fastened to the gut near its exit from the upper opening to the canal and the superfluous silk-worm gut cut away. The silk-worm gut thus armed with the shot at either end is now left in place until the abscess, fistula, or obstruction disappears and perfect drainage restores the parts to a healthy state. Whether this takes three weeks or six weeks no inconvenience or danger is experienced and the presence of the aluminum shot is not so unsightly as might at first thought appear, and if it were, the result pays for the inconvenience, and then the super-æsthetic or "sound-money" patients might wear gold.

Bright's Disease without Albuminuria.—Marion (*Arch. Gén. de Méd.*, March, 1895), after referring to the recorded cases, relates three cases of unquestionable nephritis occurring in patients aged fifty-eight, nineteen, and fifty-nine years respectively. In the first case there never was albuminuria while the patient was under observation. In the second case, a chlorotic girl was admitted with many of the symptoms of Bright's disease, and yet there was no albuminuria. Two years later she was readmitted, when albumin was present in the urine. In the third case the patient had been under treatment with Bright's disease and albuminuria. Later she was admitted with influenza. The albumin entirely disappeared, but the symptoms of Bright's disease persisted. The author draws attention to the fact that the quantity of albumin present may be of little prognostic importance, and he relates an illustrative case. Albuminuria is a feature of secondary importance in Bright's disease; it may occur in health, it may exist in large quantities in cases of Bright's disease with few symptoms, and it may be absent in uræmia. As Dieulafoy says, the important thing in renal disease is not so much what passes out in the urine as what remains behind in the body.—*British Medical Journal.*

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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New York, June 1, 1895.

A NEW PHASE OF MEDICAL CHARITY.

AT a recent anniversary of one of the large and needy hospitals in the millionaire district of this city a speaker filled with enthusiasm for the benefits of the present hospital system is reported to have said that one of its greatest boons was the saving of expense to the rich man. In proof of such an unjust and outrageous claim he bolstered his statement by comparing the items of expense when a patient was treated at an ordinary hotel by his regular medical attendant with those in a well-equipped charity institution supported by the liberal contributions of a Christian organization. Instead of a daily expenditure of $5 for hotel accommodations, $5 for a trained nurse, $5 per visit for the physician, and $5 more for the board of the nurse, not to speak of the cost of the medicines from an expensive pharmacy, the patient who entered the hospital in question needed only to pay for his board and a private room. All other outlays were unnecessary and were included in the one item named. Naturally in this connection we think of the physician, who is the only one whose services are virtually considered of no account. The high price of the room added to the donations of the charitable enable the hospital to make a handsome profit, even including the general expenses for nurses, medicines, instruments, and dressings. The attending physician or surgeon, who might be looked upon as the real personage who makes any hospital what it is, is not only entirely ignored, but a deliberate attempt is made to swindle him and his outside associates in attempts at gaining a legitimate livelihood. It would appear from all this that the evolution of medical charity is distinctly in the direction of eliminating the doctor. Another step in this direction would be for hospital managers to go into the wholesale proprietary medicine business and prescribe remedies on their own account free of cost to the patients. Why should not money be invested as well and as profitably in medical charities and millionaire clinics, as in railroads, wheat, and mining stock? The men who run the hospitals can command all the needful capital on the hypocritical plea of charity to the poor, can obtain medical services free, can build magnificent edifices, endow beds for cast-off servants, beg for church subscriptions, and what now is to hinder them from running the medical charity business entirely in their own interests? They are doing it all the time, though less openly than the distinguished speaker in question has so frankly admitted.

THE INCREASE OF FAVUS.

WHILE tinea favosa must still be classed among the rarer skin diseases the day has passed when we can regard a case in this city as a very unusual occurrence. It is now only the generalized disease, involving the greater portion of the body's surface, which can excite the admiration of the dermatologist. When the American Dermatological Association came into existence in 1877 and began giving us statistics, they could only muster 32 cases for the whole country, and New York contributed but 4 of this number. Ten years later there were 45, of which 8 were credited to this city. In the report of 1889, however, we find New York's cases given as 37 out of a total of 54. In 1892 the figures take a bound to 92 and 145, only to fall again in the last report to 60 charged to our account out of 100 total for the various large cities of the country. While these figures do not pretend to give an absolutely correct census, they serve to show that the disease has gradually increased and that New York to-day has about three-fifths, whereas she formerly had but one-eighth as her share of the cases. It is not the number which interests us, for, after all, it amounts to but one-third of one per cent. of all skin diseases, and compared with Paris, Glasgow, Belfast, Russian, Hungarian, and Eastern cities our number is small. There are, however, features of the disease, as it presents itself to our consideration, which make it of no little importance. And first among these is the fact, which various writers have mentioned in their reports, that almost all our cases are imported. Secondly, communications to the MEDICAL RECORD at various times show that many of these favus children attend school. Now, if we do not keep them out of the country—which is a great mistake—we should surely try to keep them out of the schools and from infecting others.

A third point to which our attention has recently been called by a correspondent is the inadequate treatment these cases receive in most of our dispensaries. The nature of the disease requires for its eradication more time and attention than can be given to it in the large classes, and sending a favus child into hospital too often means infection of other youngsters, and the much-to-be-dreaded institution epidemic.

If these cases cannot be stopped at quarantine there should be some way provided to corral and keep them apart till cured. We are much too young a country to compete with the old world in favus statistics, and there should be a quick return to the good old times when New York City could boast but four cases of favus.

A Proposed Emergency Hospital for Boston.—A Boston woman, whose name is withheld, has offered to contribute $250,000 for the erection of a new emergency hospital in that city as a memorial to her husband. She imposes only one condition, and that is that the public shall contribute $50,000 additional, as a guarantee of their willingness to maintain the institution.

"A DEADLY DISEASE OF OUR TIMES."

In connection with the cock-sure statement of Mr. Howells that the present race was never so healthy and strong as now, it is interesting to read the following paragraph, written by Dr. T. S. Clouston, Superintendent of the Morningside Asylum, Scotland. He says:

"One terrible form of brain disease, with mental symptoms, is certainly increasing. . . . That malady may be described as a break-down of the great centres of mind and motion in the brain; it always goes on from bad to worse till it renders its victim utterly helpless in mind and body, and kills him in a few years. No cure, and scarcely any mitigation of this latter-day curse, has yet been devised. It is a disease of cities, of restless lives, of active brains in their prime; sometimes of dissipation and debauchery, of life at high pressure commonly."

During the past year the asylums of Scotland received 150 new cases; those of England, 1,400; and those of Ireland, 52. The asylum statistics of this country show an even greater number.

In a single asylum of this State, for example, that at Ogdensburg, there were among the 659 admissions 31 cases of general paresis. This would make the proportion of general paralysis over four per cent.

Among seven State asylums, to which 1,942 patients were admitted in 1890, there were 66 cases of general paralysis, or a little over three per cent. If four per cent. be the general ratio for this disease in the State of New York, then the total number of paretics among the 16,000 insane would be about 640. As a matter of fact, the number is much greater, because the proportion of this disease is larger in the New York and Kings County Asylums than in those of the State at large. But even if there were but 4,000 cases of general paresis among the 100,000 insane of this country, it would be an extraordinary evidence of the development of a disease which in the last century was certainly not known, even if it did exist.

LISTER AND NAPOLEON.

Sir Joseph Lister, says *The Practitioner*, has probably been the means of saving as many lives as Napoleon's ambition destroyed, and his work, unlike that of the master of "big battalions," will live after him in silent but ever-active fertility of good. "We should," our contemporary adds, "perhaps, be thankful that Sir Joseph Lister has been honored at all, for men like him have too often in the world's history been ignored or even persecuted. But what, after all, is the recognition he has received from the State compared with what would have been his had he displayed but an infinitesimal portion of the same capacity in soldiering or in politics? Till the mental vision of the public is corrected by a better appreciation of the 'realities' of things, its moral perspective will be all wrong. It is certain, however, that the time will come when the physician will be held in greater honor than the fighting man."

It will be long before the world prefers the silent victories of science to the dramatic deeds of the great war-lords. There is, in fact, nothing in the discovery and application of antisepsis and asepsis that causes the pulse to beat faster and the mind to glow with excitement and enthusiasm. The achievements of Harvey, of Jenner, of Lister are historic and give to these men undying fame, but they do not appeal to the grand passions of men, nor delight their artistic sense. Hence they will always remain a little in the background. As a benefactor of humanity, Lister, and many other men barely known to the world, quite outrank the great Napoleon, but they will never have anything like the present Napoleonic revival. After all, Napoleon was cast in a giant mould; and he is admired for his colossal work and his extraordinary mind, though his work was one of blood and destruction.

THE INTERNATIONAL CONGRESS OF SCIENTISTS.

There has been an International Congress of Scientists at Chicago during the past week. We turn with interest to the records of its proceedings, expecting something very scientific from an assembly which is a "Congress," and which is international and scientistic—for that seems to be the legitimate adjective in the case. It is composed, we learn, of several hundred men and women, embracing Mental Healers, Truth-seekers, Christian Scientists, Scientists of the Divine, Mental, and Spiritual Orders. These harmonious specialists in spirituality hold as the cardinal principle of belief that "the expression of subjective unity is objective harmony."

The sessions were occupied with essays, solos, poems, and "a congregational benediction of health."

The interesting feature of this and similar meetings is that they are called in the name of science. As a matter of fact there is nothing further removed from orderliness of thought than the religio-mysticism of the International Scientists.

News of the Week.

State Care of Insane Bill.—The bill to transfer the care of the insane of New York City to the State failed to receive the Mayor's approval and will not become a law. The sentiment of the medical profession of the city was decidedly against the bill in its present form.

The Craig Colony for Epileptics has had the sum of $125,000 appropriated for its use during the coming year. Governor Morton has appointed the new board of managers, twelve in number. Four members of the old board, including Dr. Peterson, Dr. Jones, Mr. Cuddabuck, and Mrs. Wadsworth, are reappointed. Work at the colony will be begun at once for the reception of patients next fall.

The Use of Antitoxin.—Statistics of diphtheria in Connecticut show that in eighty-seven per cent. of the cases where antitoxin has been used the patients have recovered. Since January 1 there have been found 288 cases of diphtheria in the city of Newark. Of these 90 were treated with antitoxin; 199 not so treated. Of the

90 cases, 23 died; of the 199, 60; the percentage of the former being twenty-five, of the latter, thirty-two. The result of the use of antitoxin was a decrease of seven per cent. of diphtheria cases.

In connection with the foregoing favorable accounts of antitoxin, we publish the following telegram from the American Pediatric Society, the meeting of which was held during the past week at Hot Springs:

"*Resolved*, That in the opinion of the American Pediatric Society the evidence thus far produced regarding the effects of diphtheria antitoxin serum justifies its further and more extensive trial.

"SAMUEL S. ADAMS.
"*Secretary.*"

M. Pasteur was recently offered a decoration by the German government in recognition of his labors in the cause of science and for humanity, but has refused to accept it.

The Cholera has died out at Mecca, if the official reports are to be believed, there having been no cases there since May 23d. In Russia, however, there are the usual number of new cases and deaths. Dr. Proust, of Paris, who was a member of the international sanitary conference, has come out in an interview in the *Éclair*, saying that the refusal of Great Britain to apply the decisions of the conference is absolutely criminal. He says that if Europe is invaded by cholera Great Britain alone will be to blame.

Yellow Fever prevails to a considerable extent on both the Gulf and Pacific coasts of Mexico. It is increasing in Cuba, the newly arrived Spanish troops furnishing abundant fuel for the spread of the disease.

A Monument to the Late Professor Billroth.—A statue of the illustrious Billroth was unveiled in the Hospital Rudolfinerhaus on April 25th. Addresses were delivered by Count Wilozek and Dr. Gersuny, director of the hospital, the latter observing in the course of his remarks that the profession of medicine will never forget the eminent operator, whose name is associated with every advance in surgery.

Fast Time to Attend a Sick Man.—We clip the following from a Colorado daily, concerning the flying trip of our friend, Dr. Powers, who lately left this city to reside in Denver. It would appear that he is already in quite an active practice: "J. S. Troy, one of the principal owners of the C. O. D. mine, was taken suddenly and seriously ill to-day, and word was sent to Denver calling Dr. Charles A. Powers to attend him. A special train was ordered over the Midland and it made the fastest time ever made between Denver and Cripple Creek. In three hours and thirty-seven minutes the engine stopped at Grassy. In twelve minutes more the doctor was with his patient in Cripple Creek."

Society Meetings.—THE MAINE MEDICAL ASSOCIATION will hold its forty-third annual meeting in the Common Council Chamber, City Building, Portland, Me., on Wednesday, Thursday, and Friday, June 5th, 6th, and 7th.—THE CONNECTICUT MEDICAL SOCIETY held its one hundred and third annual meeting at Jewell Hall, Hartford, Conn., on May 22d and 23d. Among notable subjects discussed were those on the reports of typhoid fever and the sero-therapy of diphtheria.—A CONGRESS OF GYNECOLOGY, OBSTETRICS, AND DISEASES OF CHILDREN will be held at Bordeaux, France, on August 12th and four following days. The subjects on the programme are: "Uterine Displacements;" "The Treatment of Puerperal Septicæmia;" "Malformation of the Lower Limb, more especially Luxation of the Hip and Club-foot."

The Hospital Graduates' Club gave their tenth anniversary banquet on Thursday evening, May 23d, at the Hotel Hungaria. Dr. Charles H. Knight presided, and Dr. W. K. Simpson acted as toast-master. Responses on call were made by Drs. George B. Fowler, George F. Shrady, Mr. McElroy, late of the *Tribune*, Drs. W. K. Otis, F. W. Jackson, and E. M. Culver.

The Academie de Medecin, of Paris, recently had to adjourn because there were no papers to be read. The fact is commented upon as remarkable and unfortunate. We grant the former, but deny the latter assertion. We know of societies that would serve the cause of science better if they adjourned because there were too many papers to be read. There are too many societies and too many papers written perfunctorily to fill a date.

Object to the Hospital Tax.—There is said to be opposition in the Marine Corps over the monthly forfeiture of twenty cents by officers and men of the corps in behalf of the Naval Hospital Fund. For many years it has been a practice to deduct from the salaries of the Marine Corps people a small fraction, which is applied to the support of naval hospitals. The question has been sent to the Treasury Department for final decision.

Keokuk College of Physicians and Surgeons diplomas have been refused recognition by the Iowa State Board of Medical Examiners.

The California State Medical Society.—There are two thousand (regular) physicians duly licensed and practising medicine in our State. Of these two thousand only four hundred are members of our State Medical Society; of these four hundred only twenty-five were present on the first forenoon of the recent (April) meeting of the Society at Golden Gate Hall in this city. At the afternoon session the members increased to thirty-five, which was about the average attendance, with the exception of the afternoon of the election, when the number increased quite considerably. This showing is nothing short of disgraceful, and plainly indicates that the medical profession of this State or the State Society is at fault.—*Pacific Medical Journal.*

Epilepsy and Marriage.—In the daily court reports of the Cincinnati press there may have been seen one day last week a decision by Probate Judge Ferris, announcing that he would not issue a marriage license where either of the high contracting parties are sufferers from epileptic disease.

To Prevent Influenza.—A daily dose of one grain of sulphide of calcium is said by Dr. W. E. Green, of the Isle of Wight, to prevent influenza.

Reassured.—Patient: "Ah, doctor, I had great fear of being buried alive until——" Doctor: "Until what?" Patient: "Until you took charge of my case."

The Operating Theatre of the Long Island College Hospital is said to be in an unsanitary and septic condition.

New Cure for Gonorrhœa.—Under this title the Paris correspondent of the *Medical Press* gives an abstract of a lecture by Dr. Routier, of the Hôpital Chochin. Routier says: "Where the gonorrhœa is in its acute stage I would advise you not to interfere. Tell the patient to wear a suspensory bandage, to take an alkaline bath every three days, and in about ten days afterward to come back, and then you will cure him. On the other hand, if the case is one that has been of some weeks' standing the treatment can be commenced at once. Your line of conduct will be guided according to the extent of the affection. If the virus has only attacked the anterior portion of the canal large irrigations without forcing the sphincter will be sufficient, but if the whole of the urethra is affected, urethro-vesical irrigations must be made. In every case accompanied by fistula, abscess, or other complication the treatment should be directed to that end before attempting to cure the gonorrhœa. The *modus operandi* of the treatment is easy, but essential to follow in detail. A reservoir *ad hoc* holding about two quarts is filled with the solution of permanganate of potash (1 to 2,000), warm, if possible. An india-rubber tube of about two yards in length, and terminated with a glass nozzle, is attached to the reservoir. The patient urinates immediately before the operation, so as to wash out any pus that may have collected in the canal since the last micturition. The reservoir being placed about five feet above the penis, the glans and meatus are carefully irrigated, and then the cannula is inserted into the meatus, and the liquid flows in until it reaches the sphincter, when it returns and escapes, and so washes out the anterior portion of the urethra. To attain the posterior portion the fingers press the lips of the meatus against the cannula, and the liquid not being able to return forces the sphincter and penetrates into the bladder. As soon as the patient feels the want to urinate the current is turned off, and the man recommended to press on the penis from time to time while rejecting the solution to stop the flow, by which means the liquid penetrates into all the glands, and its action is increased. The operation can be repeated once or twice. If the liquid cannot enter the bladder with a pressure of five feet, the reservoir can be placed a little higher, for the resistance of the sphincter varies. If the patient is nervous a catheter can be passed, and the nozzle fixed to it. One *séance* a day is sufficient. At the end of eight days your patient will be cured, on the condition that he comes every day to be treated. I have thus treated, in the last few weeks, twenty-five cases of gonorrhœa, of which eight were in the acute stage, and all of them were cured in a week. In order to ascertain if the patient is really cured of his gonorrhœa, instil into his canal a few drops of a solution of nitrate of silver (1 to 1,000); a chemical inflammation is provoked, and if any gonococci have remained a drop of pus will be found in the morning."

An International Sero-therapeutic Institute.—That enterprising medical "daily," the *Riforma Medica*, of Naples, has made a start in introducing the interview into medical journalism. In a recent number, says *The Practitioner*, it published an interview between its editor, Professor Rummo, and Professor Ferrannini and Professor Behring. There is nothing of particular interest in it; in fact, the greater part of the interview would seem to have been occupied with mutual compliments. One gathers, however, that Professor Behring, in view of the present uncertainty as to the strength and purity of antitoxic serum prepared in different laboratories and used in different countries, is anxious to see an International Sero-therapeutic Institute established to which all serum manufactured throughout the world should be sent to be tested by an international committee appointed for the purpose. A standard of strength and quality should be decided on, and the committee should withhold its sanction from any serum which failed to come up to the standard. This should apply not only to the diphtheria antitoxin, but to all kinds of serum intended for therapeutic use. In fact, there should be a control of serum of exactly the same kind as exists in all civilized countries for weights and measures; only it must be international. This would eliminate the element of *chauvinisme*, on which Professor Behring lays great stress as a disturbing influence in scientific matters. It is suggested that the Institute be located in Switzerland. But what is the matter with Chicago?

Remarkable Results by Professor Kocher in the Treatment of Goitre.—At the Congress of German Surgeons which met on April 17th in Berlin, Professor Kocher, of Berne, reported that in the last nine hundred cases operated on by him the method of total extirpation was wholly abandoned, and only the partial operation was performed. Since proceeding in this way he has not had any cases of cachexia strumipriva except in one instance, where the remaining part of the gland was found to be atrophied. This case was cured by the internal administration of thyroid gland. Although he was well satisfied with his results, the mortality being only twelve per cent., he hoped that the number of operations would soon be reduced, and that internal medication would be substituted. He made a very remarkable communication, describing the influence of the internal administration of thyroid extract and phosphate of potassium, and showed several photographs of patients where the reduction of the gland after the use of these internal remedies was very obvious. His address was listened to with much interest, and caused a great sensation. Professor Mikulicz said that the internal use of thymus gland was also able to reduce the goitre. Professor von Eiselsberg had not found this to be the fact in his experience.

Thymus Feeding is said by Mikulicz to be of benefit in Basedow's disease.

The Medical Department of the University of Nashville has severed its connection with the Vanderbilt University. It will erect a building of its own. The university itself expects in 1897 to receive $1,500,000 from the Peabody Fund. The prospects of the medical college are therefore very bright.

The Hanoi Hospital has been officially inaugurated at Tonquin. It contains three hundred beds, and is stated to be excellent in all sanitary arrangements.

Reviews and Notices.

THE HISTORY OF THE PENNSYLVANIA HOSPITAL, 1751–1895. By THOMAS G. MORTON, M.D., President of Medical Staff and Senior Surgeon to Pennsylvania Hospital. Assisted by FRANK WOODBURY, M.D., Hon. Prof. Clin. Med., Medico-Chirurgical College. Royal 8vo, pp. 574. Philadelphia: Times Printing House.

THIS elaborately illustrated and handsomely printed work gives the interesting and instructive history of the oldest hospital in the country. The fortunate discovery several years ago of many old and original documents bearing on the first establishment of this great charity impressed the managers with the necessity of gathering them in some enduring form, and they invited Dr. T. G. Morton, the senior surgeon, to arrange and present them in proper form. He, with the assistance of Dr. Woodbury, has so well succeeded that, apart from its purely literary merit and judicious editing, the work will take its place among those of history as a model of its kind. The story is one of trials, obstacles, and final triumphs, and illustrates in all its phases the evolution of the hospital system from the smallest and most primitive of helpful efforts to the grandest triumphs of progressive and helpful humanitarianism. Many of the illustrations are works of art, and aid to make the work proportionately attractive. A number of older documents are presented in fac-simile, while the numerous portraits and biographies of former managers and members of the medical staff give it an unique historical value. It is just to say, in recognition of the arduous labors of the compilers, that it is one of the most complete works of its kind to be found anywhere.

CLINICAL GYNECOLOGY, MEDICAL AND SURGICAL, FOR STUDENTS AND PRACTITIONERS, BY EMINENT AMERICAN TEACHERS. Edited by JOHN M. KEATING, M.D., LL.D., and by HENRY C. COE, M.D., M.R.C.S., Professor of Gynecology, New York Polyclinic. Pp. xviii, 994. Philadelphia: J. B. Lippincott Co. 1895.

THE aim of this "Clinical Gynecology" is stated to be the presentation to the student and the practitioner of the views of a number of clinical teachers, selected by the editor because they were known to be progressive and free from hobbies, and yet conservative in their teaching and their practice. The death of Dr. Keating threw the burden of preparation of the volume on Dr. Coe, and while credit is due the former for the selection of the men who prepared the articles, to the latter belongs the full meed of praise for judicious pruning and the consequent appearance of a volume which compares more than favorably with others which have been written of late years, and which in many respects excels all others.

While in the opinion of many there may be too many works and too many systems dealing with gynecology, an exception will certainly be made in favor of the present system, for it is written from the stand-point of modern belief, and it bears the evidence of honest purpose in the advancement of all that may tend to the relief of suffering women. Those who are inclined to criticise the fecundity in literature of gynecologists should remember that in no department of medicine have the changes in teaching been more radical and the alterations in method more marked and advantageous. Those of us who were taught but yesterday, so to speak, have forgotten the major part of this teaching; most of the idols of only a few years back have been buried, and in their stead are new idols destined probably to as short an existence. All this may not entirely redound to the good of womankind, but in the life of an unsettled science change must occur until the science reaches the maturity of exactitude. With these thoughts in mind we are prepared to commend highly this system, in the feeling that while all its teaching may not be found exact, the burden of conservatism under which it is prepared will prevent the student from over-enthusiasm as well as from ultra-nihilism.

The work contains forty-nine chapters, with an introduction by the late William Goodell, whose writings and counsel endeared him so much to the medical profession and to the laity. While praise may be accorded to each of the writers in this volume, the space at our command allows of specific reference to only a few of the articles which especially typify the alterations in technique and in teaching.

That all is not surgery in gynecology is evidenced by reading the excellent chapter on Gynecological Therapeutics, prepared by Bache Emmet, of New York. As a rule too little space is devoted to the medical side of gynecology in current treatises, which includes attention to the system in general, instead of jumping to the conclusion that the poor woman must suffer because of the fact that she has been blessed (or cursed) with uterus and appendages. The reader of this chapter will learn that much may be accomplished without resort to the knife and often without touching the sexual organs at all. Matthew D. Mann, of Buffalo, contributes by far the best analysis of lesions of the genital tract with which we are familiar, simplifying in particular the operative technique. Those who are familiar with the writings of W. M. Polk will not be disappointed in the chapter which treats of Inflammation of the Female Genital Organs, that debatable ground in gynecology, and, in fact, that scene of strife even at the present. The conservatism in teaching of this chapter is marked, the writer realizing to the full the danger of dogmatizing on debatable ground. The chapter treating of Inflammatory Lesions of the Pelvic Peritoneum and Connective Tissue we can hardly call up to date, although the writer, Byford, of Chicago, presents the facts from his stand-point after an admirable fashion. The chapter on Uterine Displacements savors somewhat of antiquity, when we recall the fact that to-day the pessary no longer reigns supreme in gynecology, and yet the writer is to be congratulated in that he has been able to divest his present teaching of much which characterized his writings in the past. The chapter contains more than one admission of faulty teaching in the past, and doubtless the next edition of this system will see a still further use of the pruning-knife. Boldt's chapters on Neoplasms of the Vagina and Uterus are classics, and Coe has maintained his high standards of accuracy and conservatism in his treatment of the topic of Neoplasms of the Ovaries, Tubes, and Broad Ligaments. Palmer's chapter on Functional Diseases is well written and teems with sound advice, but the term functional is not well chosen, for if there is one thing more than another which the student needs to have impressed on him it is the fact that hemorrhage and leucorrhœa are not diseases, but the symptoms of disease.

Among the other contributors whose articles are one and all worthy of study we note: Lusk, of New York; Jewett, of Brooklyn; Allen, of Cleveland; Duhring, Montgomery, and Hirst, of Philadelphia; Williams and Robb, of Baltimore, and Baker and Davenport, of Boston.

Both the student and the practitioner will find the system valuable for the purpose of frequent study and reference.

A Silver Medal has been awarded by the French Government to Madame Morel, who has devoted twenty-five years to the sick, having done especially valuable work during two small-pox epidemics. A similar decoration has been conferred on Madame Dallery for services during an epidemic of typhoid at Dey, in Algiers.

Clinical Department.

A CASE OF ACUTE LARYNGITIS.

By CHARLES S. DICKINSON, M.D.,
JOHNSON CREEK, N. Y.
LATE GOVERNMENT PHYSICIAN AND SURGEON TO FORT STEVENSON, N. D.

On the night of February 28, 1895, I was hastily called to see Lee S——, a boy, six years of age. He had been subject to croup more or less, and the doctor before me diagnosed this attack as one of croup, and prescribed for such, but to no avail, and the child constantly grew worse. The clutching at the throat was the most prominent symptom, with inability to breathe, and in these paroxysms the face became livid, breathing stertorous, and eyes bulged out. I found the child in this condition when I arrived. I hastily took in the situation, noticed there was no "brassy cough" of croup present, and on examining the fauces discovered no symptoms of diphtheria, but great hyperæmia of the mucous membrane of the larynx, with œdema of the glottis. The pulse was rapid, the skin hot and dry, and the bowels constipated. After the spasm was over the child would sink back exhausted on the bed; but there was no moisture of the skin. I now noticed a slight cough; the dyspnœa was very marked. I came to the conclusion that the case was one of acute laryngitis, and set about at once to alleviate the distressing symptoms. I concluded to get the constitutional effects of calomel as soon as possible. I started in with a ij. grain dose every hour till bowels were well opened, and at the same time applied hot mustard and flax-seed poultices to the throat, chest, and scapular regions. The feet were soaked in as hot water as could possibly be borne by the patient. The nurse used a cloth wet with ice-cold water to the throat, which acted very happily, and during the spasm an emetic of syrup of ipecac helped somewhat. In less than two hours the symptoms began to subside, the skin became moist, bowels were opened, spasms became less, and there were longer intervals between the spasms. The last spasm was quite severe while it lasted, but when it passed away the child fell into a sound sleep. The patient was left very weak, with considerable hoarseness and some difficulty in swallowing. The patient at this writing is making an uninterrupted recovery. I wish to draw the attention of the profession to one drug in particular, namely, calomel. I emphasize it. I think it is the most valuable drug we possess as an abortifacient to all acute inflammatory processes, especially those of the air-passages.

A CASE OF URTICARIA DUE TO URIC ACID.

By EDGAR J. SPRATLING, M.D.,
MATTEAWAN STATE HOSPITAL, FISHKILL LANDING, N. Y.

The following case is reported on account of its definite cause, and its rarity from such cause.

C. S——, female dement, aged twenty-four, was noticed, on February 12th last, to have urticarial wheals raised thickly over nearly the whole face. Attention was called to it by the nurse at about 11 A.M., the wheals having appeared since the regular nine o'clock visit, at which time the patient was sitting quiet, inattentive, immobile. She is an almost complete dement, not taking any notice of her surroundings, nor answering voluntarily the usual calls of nature; in short, requiring an infant's care.

On reaching the case the wheals were found to be very large and hard, having a peculiar velvety, somewhat oily, feel, and were easily produced in other parts of the body by slight friction, as was done on the neck and shoulders. Inquiries as to the personal care of the patient failed to give anything unusual on which to base a theory for diagnostic purposes. She was immediately placed in bed and about ten ounces of urine drawn off, which was found on examination to have a specific gravity of 1031, to be highly acid, and to contain no albumin nor sugar; the microscope showed many crystals of uric acid (this was within twenty minutes after the urine was drawn). The distilled water with which the bladder was washed out after the withdrawal of the urine had a specific gravity of 1003 and an acid reaction. Here, too, the microscope revealed the uric-acid crystals, showing that they were actually formed in the bladder and were adherent to its walls. At 3 P.M. four ounces of urine were drawn off, having a specific gravity of 1019, acid; the uric-acid crystals were in lessened amount.

The patient's bowels having in the meantime been thoroughly evacuated, she was allowed to remain quiet for the next twenty-four hours; at this time the wheals had disappeared from the face and shoulders, but were nicely grouped, being very large, in many parts of the body, one continuous group extending over the thighs, external genitals, inguinal and gluteal regions. The urine now had a specific gravity 1029, and many uric-acid crystals; the water used to wash out the bladder again gave the crystals, though lessened in number. In not one of the specimens of urine of the many examined were the number of crystals materially increased on standing. A failure was made in trying to show by the microscope the crystals in the blood which was taken at this time; but after having been allowed to stand for twenty-four hours, and with the aid of the usual reagents, they were easily demonstrated.

Since the second day the patient has had her bladder washed out twice each day; and on the third day afterward the blood and urine both failed to give any crystals, the specific gravity of the latter having fallen to normal. The wheals had now disappeared, and no amount of friction would reproduce them. There has been no recurrence of the trouble.

REPORT OF A CASE OF SEPARATION OF THE EPIPHYSIS OF THE GREAT TROCHANTER.

By WILLIAM B. SAVAGE, M.D.,
EAST ISLIP, N. Y.

Recorded cases of separation of the epiphysis of the great trochanter are very few. Mr. Poland reports a case at Guy's Hospital, one was observed by Mr. Aston Key and recorded by Sir A. Cooper, in which the diagnosis was confirmed after death, and one by McCarthy. The following case may be of interest:

Ivy H——, female, aged eight. On February 26, 1895, while playing with her little brother, was jumped on by him while lying on her left side on the floor. Patient said that after the accident she had walked across the floor unaided, and her attention was called to her right hip by "feeling something pricking her" at that point.

Examination showed a portion of bone just protruding through the skin, over the site of the great trochanter of the right side. This fragment was found to be freely movable beneath the skin, and apparently completely detached from the femur, and by moving it a little to one side a depression could be distinctly felt at the trochanteric site. Upon pressing the fragment again in position, crepitus could be easily made out. Flexion and extension could be made with the injured limb without discomfort, while abduction elicited pain.

The wound in the skin made by the edge of the epiphysis was so small that it was deemed best to replace the piece of bone in position. To this end an extension by weight was put on; both to overcome the

eel-like tendencies of the child and to facilitate inspection of the surface wound; fixation of the epiphysis to the femur was made with bands of adhesive plaster and pads; the whole limb was then steadied between heavy sand bags. The surface wound was dressed antiseptically, and was completely healed six days later.

On March 23d, about four weeks after the receipt of the injury, the child was allowed to get up. At this time the epiphysis was completely united to the femur without any deformity.

The above case differs somewhat from that recorded by Sir A. Cooper, inasmuch as the epiphysis in that case was not displaced, being held in position by its fibrous and tendinous covering, while in the case above reported the fragment was freely movable and drawn away from its natural position by the action of the gluteus medius and minimus muscles.

April 3, 1895.

AN ANENCEPHALOUS MONSTER.

By J. EDWARD TOMPKINS, B.A., M.D.,

FREDERICKSBURG, VA.

THERE appeared in the MEDICAL RECORD of April 20th an article on the above subject by Dr. R. H. Phillimore, of Cookshire, P. Q., Canada. The similarity between the case reported by him and one occurring in my own practice just previous to that time, and that I may add my mite to the literature on the subject of anencephalous monsters, lead me to make the following extract from my case-book:

At 10 P.M., April 6th, I was called to attend Mrs. S—— in her fifth confinement. The four preceding labors had been normal. During the present pregnancy she had enjoyed her accustomed health with the exception of severe pain in the region of the heart. This occurred about the fifth month, and lasted two or three days. On palpation there appeared to be a multiplication of small parts, but only one fœtus could be distinctly made out, which occupied the R. O. A. position. Upon examination per vaginam the os was found to be dilated to about the size of a dollar, occiput occupying position named above, and the feet of another child were detected. Labor proceeded slowly. At 8.30 the next morning I ruptured the membranes, and half an hour later my patient was delivered of two girls, about five minutes intervening between the births. The first weighed four and a half pounds, was well formed, but very cyanotic. It died twelve hours later. The second weighed two and a half pounds, and cried lustily at birth. Its body and extremities were well developed, the shoulders broad. The head presents the chief points of interest. The most striking appearances of this were the smallness, about one-half the natural size, and the extreme prominence of the eyes, which bore a strong resemblance to those of a frog. The tongue protruded, and saliva dribbled from the mouth continually. The nose was flat. Above the superciliary ridge there was no prominence, there being a complete absence of the vertical portion of the frontal bone and poor development of the parietals. The space between the two latter bones and that normally covered by the vertical portion of the frontal was occupied by a red, irregular, pulsating mass covered by a thin, serous-like membrane. This extended from the nasal eminence to the occipital protuberance. The child partook of milk and water from a spoon several times, but died thirty hours after birth, much to the relief of the parents.

Professor Leyden has received the order of St. Anne of the first class from Czar Nicholas, in recognition of his services in attendance upon the late Czar Alexander.

Society Reports.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting held at the New York Academy of Medicine, New York, May 28, 29, and 30, 1895.

FIRST DAY, TUESDAY, MAY 28TH.

THE meeting was called to order at 9.30 A.M. by the President.

The Operative Treatment of Malignant Tumors was the subject of DR. FREDERICK S. DENNIS'S opening address. He directed attention particularly to the curability of malignant tumors by operative procedures, and said that, after all, the curability of the disease was, and would always be, to the surgeon, as well as the patient, the grand question—Can we effect a cure of the given case?

The cause of malignant growth was then discussed by the speaker, who first referred to trauma as an exciting cause. In some cases this cause is traceable, and in other cases it is not observed. It, however, is present in a large proportion of cases, not as a primary, but as an exciting cause. Regarding the bacteriological origin of the disease the speaker said he would not venture to enter into discussion in the present state of the subject.

The influence of mechanical injury was illustrated in the paper by a number of cases, among them fracture of bones and other injuries involving bone-tissue or periosteum. Seven such cases were cited as having been observed by the speaker, in all of which there had been injury to bone, and in which malignant growth had developed at the seat of injury soon after. Microscopical examinations had been made in each of these cases to prove the correctness of the diagnosis. Such instances, he thought, were strongly indicative of inflammatory agency in exciting malignant growths. In this connection he mentioned a case of eczema in which cancer developed, and which had come under the author's notice, and another case was referred to, in which epithelioma of the mouth had developed upon wearing a red rubber plate for false teeth. Probably the mercury, one of the ingredients of the plate, was the particular causative irritant present. A case of cancer of the leg, growing at the site of an ulcer, was also mentioned, and also three other cases were referred to in which ulcers, in different situations, had been followed by cancerous growths. The speaker said that, in epithelioma of the mouth in smokers, probably the agent exciting the cancerous development was the nicotine of the tobacco. A clean pipe-stem probably would not excite the growth, but one saturated with nicotine might. Two cases were mentioned as having come under his observation, of cancer excited by eye-glass springs. Necrosed bone from gunshot wounds was another cause which the reader had observed.

In all these conditions mentioned above, and the like, the speaker said, the mechanical injury and irritation must not be regarded as the original cause of the disease, but only an exciting one, in those individuals already predisposed to it by heredity or acquired conditions. Benign growths, such as moles, warts, papillomata, and others, apparently act frequently as exciting agents of malignancy. The questions, then, to be discussed were: 1. Has traumatism or irritation anything to do with the etiology of malignant growths? 2. If so, what is the relation of this cause to the effects? 3. If traumatism or irritation has no share in the etiology of malignant tumors, how can the cases which have been reported in this paper be explained? 4. If this cause be admitted, on the other hand, how then can we explain the development of malignant growths in the absence of traumatic agencies? 5. Would not the theory of traumatic influence imply the purely local

origin of malignant disease? 6. Do not the cases operated on early demonstrate the correctness of the theory, that by removal of the local infection, constitutional affection can be avoided?

Treatment.—The speaker said that he had made a most careful study of his cases for many years, correctly recording every fact of importance and following up each case, when possible, to get at the subsequent history, in order to arrive at reliable conclusions as to the actual value of operative treatment in cancer and other malignant tumors. He said that there was nothing particularly new by way of results for him to present, but he simply would add his experience to that of others. He declared that a radical operation for malignant tumor signifies something more than is implied by the term as ordinarily employed in other fields. The amputation alone of an extremity affected by cancer is not necessarily or probably radical so far as removal of the disease is concerned. The absolutely complete removal of all affected tissue, glandular or other, is implicated in the term radical operation, as applied to the removal of malignant tumors. The surgeon must find out what glands should be removed. Often near-by glands are unaffected, while remote ones are diseased. Operative procedures should not be abandoned as useless in any case because there is local recurrence, but the operation should be repeated an indefinite number of times, and so long as there is local recurrence which is removable by the knife and systemic affection has not occurred. The speaker referred to several cases of his in which, after many recurrences and many operations, the patients had finally recovered.

The speaker then referred to the published experience of several operators of prominence in Europe who have reported no recoveries in sarcoma of glands after their removal by operation. This experience was not in accord with his own, which had given him twelve recoveries out of thirteen cases. He also called attention to the great percentage of deaths which results from malignant tumors, to emphasize the great importance of providing a remedy for the disease.

As to statistics, in cases of epithelioma of the face he had had no mortality. Of 97 amputations of extremities there was but one death, and this due to hæmophalia—practically no mortality. Of 97 amputations of the breast, there were 23 cases of sarcoma and other tumors than cancer, leaving 74 cases of pure cancer. Of these he had subsequent histories of 43 cases; 3 of these have not yet reached the three years' time limit. This leaves 38 cases of cancer in which subsequent histories are in his possession. Of these there have been 17 permanent recoveries—forty-five per cent. Among these 38 cases there were but two local recurrences—about five per cent. These are statistics published by him prior to 1891. Since then the speaker reports 15 cases of pure cancer of the breast with no mortality from the operation itself. There were two deaths from other causes among them. He desired to emphasize the importance of early removal of benign tumors, and most particularly because their presence is liable to excite the development of malignant growth, and because we can never know when the change from benignity to malignancy may begin to develop.

The Radical Cure of Hernia.—This was the subject next discussed, and Dr. John H. Packard, of Philadelphia, Pa., was the first speaker. The speaker had arrived at the conclusion, after careful study of cases and dissections, that the prevalent ideas of the anatomical relations present in inguinal hernia are incorrect. He had arrived at the conclusion that the sac descends without any reference to the cord. The rupture is independent of relations to the cord. In many cases, although the sac may envelop the cord, it is distinct from it and easily separated. The speaker gave demonstrations by drawings of his theory regarding this matter. In most cases the hernia does not come down under the infundibulum fascia, but when it does and it becomes scrotal, we have the infantile form of hernia. Dissections show the sac of the hernia and the sheath of the cord to be distinct and separate, except in the infantile form of hernia. This the speaker had demonstrated by his own dissections, by study of those of others, and by the study of cases on the operating-table.

In the radical cure of hernia it seems, therefore, that we need not interfere at all with the cord. He described his mode of procedure in operating, adapted to his theory of conditions present. In this operation, after a curved incision through the skin, and carried down to the sac, the finger being passed up into the sac, the sac is stitched up and made to form a plug at the ring, and the cord is left untouched. After this, any other operation may be done to supplement it, such as McBurney's.

Dr. McBurney, in further discussion, said that he should confine himself to inguinal hernia. Nothing was more remarkable than the rapid development of the radical operative treatment of hernia during the past eight or nine years.

His opinion differed somewhat from that of Dr. Packard as to the importance of the fascias, etc., at the abdominal ring, in connection with the subject of operation. As McEwen shows, the most important point is the total obliteration of the sac. A plug should not be left, but the sac should be entirely obliterated. The speaker did not believe that surgeons would ever return from that position to the one they had abandoned, that of leaving the sac. The sac having been removed, how shall we prevent recurrence of the hernia? The key of this accomplishment is in removal of the cord and placing it in a new position, together with entire obliteration of the sacs. Closure of the inguinal canal so long as the cord remains in it is, of course, impossible. As to the operation which goes under his name, the speaker remarked that it was devised when the subject was very undeveloped. He does not feel at all satisfied with its results, in comparison with those of other operations more recently devised—that of Dr. Halsted, for instance. In certain conditions of hernia his operation is still advisable, but not in many cases. The greatest obstacle is met in a class of cases in which there is a large, distended canal and in flabby individuals. In absence of this condition his operation will, for the most part, be effective. But the chief point of its weakness is in the shrinkage of cicatricial tissue, especially in the class of cases referred to.

The constant movement and stretching of tissue, especially noticeable in flabby individuals, favor absorption of cicatricial tissue and occurrence of hernia. Dr. Halsted's operation, the speaker said, he believed, meets the requirements best of any operation yet devised. One of the advantages in the operation is the removal of the large veins.

Dr. John E. Owens, of Chicago, said that he had nothing new to offer. He did not think we could expect the same anatomical relations always to be present, as implied by Dr. Packard. On the contrary, a great variety of pathological conditions were found. Each case had its own peculiarities. We ought to go farther than we have and follow the pathological leadings to the end. The speaker was disposed to disagree somewhat with Dr. McBurney regarding the importance of removal of the sac. He preferred to fold it up and sew it in as a plug, and have the cord dealt with according to the circumstances—of varicose veins, etc.

Dr. Halsted's operation was a good one, but not infallible, as we were only too sure to learn by experience. He referred to Dr. Coley's allowing his cases to get up and go about two or three weeks after the operation. His experience did not justify this practice, but showed the necessity of keeping the patient in bed two months, and that a support should be worn for some time after that.

Dr. Halsted, of Baltimore, was then called upon by the President, and related his experience which led to the devising of his operation. The operation is nothing more than sewing up the wound which nature and we, the surgeons, have made. Upon the perfect accomplishment of this depends the permanence of our results. He would caution against the too indiscriminate removal of veins in his operation. This should be done only when they are enlarged, as their removal has been in several cases followed by loss of the testicle. But the chance of this, about one in fifty, should not deter us from the removal of veins if the success of the operation appears to depend upon it. The removal of the sac has not been proved absolutely essential in all cases, but is very important, at least, in most. Three weeks is not too long to keep the patient in bed; this is probably not long enough. In a patient dying from other cause, twelve days after operation for hernia, the autopsy showed that the wound could be easily torn open. Another like case showed the same thing, after about the same time.

One speaker said that he operated so as to leave the cord in an oblique direction upward.

Dr. Warren said he had made some experiments to determine the resistance of the abdominal adhesions. These showed that it took considerable time for complicated cases to heal. The connective tissue of the canal is of the same general nature, and requires the same time to heal.

Another speaker said that he exacted a promise of his patients to remain six weeks in bed after the operation.

Dr. Van Derveer, of Albany, N. Y., said that as to sutures to be employed, he had been disappointed with catgut; silkworm sutures had proved more satisfactory.

Dr. Packard, in conclusion, said that notwithstanding adverse criticism, he still believed that his theory was true of a large number of cases and would modify the character of operations in the future.

Result of Treatment of Hypertrophy of the Prostate was the subject of the next paper, which was read by Dr. J. William White, of Philadelphia, Pa.

Causation.—Sinot's theory was referred to, that prostatic hypertrophy is a natural hypertrophy of age, while others teach it to be the result of other causes, such as excessive sexual intercourse, etc. Changes in the male caused by change in testicles, are, the reader said, analogous to change in the female caused by change in the ovaries. The effects of injections of spermatic extract was referred to in this connection. The prostate is in close relation with the testicles in the male, as the ovaries with the womb in the female. The close nervous association, controlling blood-supply, between these organs is evident. Cell-development is regulated by nerve-function, and is a more important matter in this connection than is recognized generally. The testicle secretes spermatic fluid long after spermatozoa ceased to exist in it and after the power of reproduction has ceased to exist. In such cases the removal of the testicle has the same effect upon the hypertrophy of the prostate as in those in whom the reproductive function still exists. The testicles have a twofold function, that of reproduction and that of imparting the quality of masculinity to the individual. Possibly it is the perversion of the latter function, after the former has ceased to be active, which imparts the motive force to cause the hypertrophy of the prostate, a closely associated organ, as shown above. One hundred and eleven cases, the reader said, had been collected by him, of operation by double castration for prostatic hypertrophy, and he related the histories of three of these in detail as examples, to show the cases were genuine ones, and that the conclusions were reliably drawn. One of these was a case which occurred in a New York hospital and was under very reputable surgeons. These cases were extreme and aggravated types, and had been under observation for a considerable time, all by competent surgeons, and had resulted in cures. The relation of these cases seemed to be required in order to overcome criticisms made that the observations had not been of sufficient reliability to warrant the drawing of conclusions. The reader does not regard the operation as any longer experimental. One of the one hundred and eleven cases was a chronic hospital patient, had been regarded as hopeless, but notwithstanding was greatly relieved, if not cured, by the operation. The claim that the results are due to other measures adopted than the operation is not tenable. Such results are not observed from rest in bed, medication, hygiene, etc. The rapid disappearance, often observed, of the hypertrophic tissue after castration is remarkable, but is explainable upon physiological grounds probably. The cure of the accompanying cystitis in these cases comes about as the natural result probably of the removal of prostatic obstructions which have existed, to the flow of urine.

There were twenty deaths from the operation among the one hundred and eleven cases reported. The history of these cases shows that the deaths occurred in complicated conditions in many instances.

The conclusions, the reader said, which seemed inevitable are:

1. The functions of the testicle, like those of the ovaries, are two-fold—the one reproductive, the other for the development and preservation of individual sexual characteristics. Need of exercise of the latter function ceases with the advent of full adult life; but possibly it does not disappear, and that the hypertrophies in closely allied organs, like the testicle and prostate, result from this misdirected energy.

2. Theoretical objections to the operation of double castration have been fully negatived by clinical experience, which in 87.2 per cent. show that rapid atrophy of the prostate follows the operation; and that disappearance or great lessening of long-standing cystitis takes place in fifty-two per cent.; more or less disappearance of vesicle dilatation in sixty-six per cent.; amelioration of most of the troublesome symptoms, in eighty-three per cent.; and a return to local conditions, not very far removed from normal, may be expected in considerable number of cases (in 46.4 per cent.).

3. The deaths have been 20 in 111 cases, eighteen per cent.; but of these, 12 may be fairly excluded in obtaining a legitimate estimate of mortality from the operation. This leaves a mortality of seven per cent. It should be noted that in the desperate cases in which death occurred, seventy-five per cent. showed shrinkage of the prostate before death occurred.

4. The operation would seem to offer greater prospects of permanent return of nearly normal conditions than does any other method of treatment. The relative degree of improvement should be taken into consideration in relation to the mortality, in comparing the operation with various forms of prostatotomy and prostatectomy; so should the absence of any risk of fistula, and also the ease and quickness with which the operation may be performed.

5. The evidence as to unilateral castration is at present contradictory, but there is no doubt that in some cases it is followed by unilateral atrophy of the testicle; and in two cases, at least, it has resulted in marked improvement of the symptoms.

6. Experiments of the author on dogs show in nearly every case in which the vas deferens was tied or divided on both sides, that without much change in the testicle, there were beginning atrophy of prostate with considerable loss in its weight.

7. Ligation of the vascular constituents of the cord, or of the whole cord, produce atrophy of the prostate, but in the experiments, only after first causing disorganization of the testis.

Time for adjournment having arrived, the President said that the discussion of the paper would be postponed until Wednesday morning.

(To be continued.)

AMERICAN GYNECOLOGICAL SOCIETY.

Twentieth Annual Meeting, held in Baltimore, May 28, 29, and 30, 1895.

MATTHEW D. MANN, M.D., OF BUFFALO, PRESIDENT.

FIRST DAY, TUESDAY, MAY 28TH.

Address of Welcome.—DR. ASHBY read an address of welcome to the members at this meeting.

The Renal Catheter and its Use in Diagnosis and Treatment of Renal Diseases.—DR. HOWARD A. KELLY in this paper described his method of catheterizing the ureters, related five illustrative cases, and gave a summary of his conclusions. A long silk catheter is used, coated with shellac. It was introduced by the aid of the ureteroscope. Precautions were taken against infection. By the aid of the renal catheter he had been able to locate exactly stricture in the ureter; to demonstrate in other cases the permeability of the canal, and thus show that the cause of anuria on one side rested higher; to diagnosticate hydronephrosis and pyelonephritis, and to distinguish between the two; to distinguish between soft malignant disease of the kidney and fluid accumulation in its pelvis; to distinguish the exact nature of the infection in pyelitis. In one case the cause of pain and suppurative discharge was proven to be due to stone by the passage of small stones through the catheter introduced up to the pelvis of the kidney.

During the course of the discussion, DR. KELLY stated that a good light was necessary in introducing the urethral catheter. With proper light, the introduction was much more easily accomplished by sight than simply by touch, and was attended by less danger.

Discussion was participated in by Drs. Etheridge, Mundé, Gordon, Skene, Bache, Emmet, Baldy and Mann.

Further Experience and Observations in Hysterectomy for Fibroids.—DR. S. C. GORDON, of Portland, Me., read a paper which was confirmatory of experience and conclusions regarding the treatment of uterine fibroids treated by hysterectomy, as stated in a paper read before this Society two years ago. His practice was to completely remove the uterus containing the fibroid by abdominal operation whenever the tumor caused sufficient symptoms to drive the patient to the surgeon for relief, and provided it could not be removed easily by enucleation or morcellation through the vagina. He had so operated in about twenty cases the past year with no deaths, in half of which a portion of the cervix was left. As a rule he preferred total extirpation. Catgut suture was employed. Dr. Gordon claimed that no uterus could long remain healthy with a fibroid; septic material was likely to form and infect the tubes and peritoneal cavity; a certain percentage of cases would go on to malignant change. Discussion took place in connection with the next paper.

The Use of Traction and Morcellation in the Removal of Fibroids versus Hysterectomy.—DR. T. ADDIS EMMET read a portion of his paper on this subject. He said the method of treatment by traction and morcellation was one but little known to the profession, notwithstanding that it had been practised by himself for many years. He now brought it forward again, because of a firm belief that, properly practised, it should be the means of greatly reducing the number of cases where total extirpation was resorted to. We were yet in the transition stage, where the tendency was to run to one extreme or the other. Dr. Emmet would no more accept the view that the uterus should be removed from the fact a fibroid existed, than condemn the operation with the dictum that it should never be performed. Abuse in removing the uterus was due to the enterprising spirit of different members of the profession in seeking for what was thought by them to be progress, but, owing to the extreme views held, the result was malpractice. To remove the uterus in consequence of the existence of a fibrous growth, from which the woman may have suffered little, was not, in his judgment, justifiable. To extirpate the uterus before thoroughly exploring the uterine canal was equally reprehensible. Frequently a secondary growth projecting within the canal was the immediate cause of the loss of blood. The most important point of all, after locating a uterine tumor, was to determine the rapidity of its growth. The tendency to loss of blood could be excluded as an urgent symptom for removal of the uterus, for by proper methods it could be held in check for an indefinite period.

We could grant that hysterectomy had come to be a reasonably safe operation, but the testimony of those who saw the women afterward was that a large proportion of them remained invalids.

Sometimes a cause for their symptoms would be found in sagging of the roof of the pelvis or of the bladder, or of the whole vagina. But in a number of cases no cause for the continuance of the symptoms after removal of the uterus could be found. Dr. Emmet thought these sufficient reasons why hysterectomy should not be done for fibroid unless it were absolutely necessary, and he would add, as a result of personal observation and experience, only to save life.

Taking this view of the case, it was well to bring forward again the method which he had practised many years, since before 1863, of getting rid of uterine fibroids in a manner want of knowledge of which was leading many to frequently sacrifice the entire organ.

Dr. Sims early in his professsional career had forcibly separated a fibroid with a stout steel instrument, and Dr. Thomas had introduced the serrated scoop, but by such means more or less damage was done surrounding uterine tissues, and a cavity was left with a roughened surface which sloughed more or less before the space could become obliterated.

Dr. Emmet said his own procedure was entirely different, consisting in firmly seizing the growth with a large tenaculum or double hook, and by traction exciting sufficient uterine contraction to displace the mass, and by such contraction also closing up the space which the tumor had occupied. Tumors with a broad base and of large size had been successfully enucleated.

Dr. Emmet believed nearly all of these growths had their commencement near the uterine canal, where they would be best nourished, and that the natural tendency was to progress forward and finally project into the uterine canal, and where several were present, removal of the inner ones would be followed by tendency of those more deeply situated to also enter the canal. He believed their origin would be found in perverted nutrition. They occurred less frequently in women who bore children, and after child-birth were apt to disappear.

Ligation of the Pedicle with Catgut.—DR. ARCHIBALD MCLAREN, of St. Paul, in a paper with this title, advocated the use of catgut in intra-abdominal work. Previously he had been opposed to catgut on account of inability to render it sterile, but this objection had been overcome by a physician in St. Paul, who resorted to dry heat at a high temperature, 290° F. The catgut was wrapped in paper and this was placed in the sterilizing tube, and the temperature was raised to the degree named. Prepared in this manner the catgut was not rendered brittle—an objection which was said to apply to dry heat as employed in sterilizing this agent.

DR. A. P. DUDLEY spoke in praise of catgut, while DR. W. M. POLK had found cases do badly under it when treated in other respects exactly like some which had done well under silk ligature. He could not account for the difference in result except on the basis of different ligature material, although he must admit that some of the same catgut was found on bacteriological test to be entirely sterile.

DR. MANN, thought, in view of Dr. Polk's last remark, that his experience was not against catgut but against some unknown agency productive of a bad result.

(To be continued.)

American Medical Association.

Forty-sixth Annual Meeting, held in Baltimore, May 7, 8, 9, and 10, 1895.

SECTION ON SURGERY.

SECOND DAY, WEDNESDAY, MAY 8TH.

(Continued from page 598.)

Movable Kidney.—This paper was read by DR. HOMER GAGE, of Worcester, Mass. He operated on a woman for movable kidney on the right side, and the patient afterward developed a movable kidney on the opposite side. Just before the first operation she felt something give way on the left side while lifting a stove.

Operation.—The kidney was replaced and held in position by three sutures of silk. The woman remained in bed two weeks. Two years after there was no recurrence.

In his second case the speaker used six carbolized sutures. The patient remained free from pain for four months, when the pain returned and shortly afterward the lump reappeared, necessitating a second operation. Dr. Gage split the capsule on the outer border of the kidney and passed five sutures through the fascia. However, the pain again returned, and in the following December the patient entered the hospital for removal of the offending kidney. Upon exposing the kidney firm adhesions were found, and its apparent mobility was due to the relaxed, flabby condition of the tissues. She has remained perfectly well since the removal of the kidney.

The first case was interesting in the entire absence of all but local symptoms. Where other symptoms exist, so much greater will be the chances of failure of the operation, and this was the trouble with the second case, where the operator avoided passing the sutures into the kidney substance itself.

The literature on movable kidney says little or nothing about associated symptoms, such as neurasthenia, hysteria, etc., and where these symptoms are present a nephrectomy may have to be resorted to in the end.

DR. WYMAN, of Detroit, thought the failure of the operation for fixation of the kidney is due to extreme laxity of the peritoneum, and when this is carefully drawn and stitched to the wound no relapse will occur. He claimed that the peritoneum formed a normal support to the kidney, and unless the relaxation is corrected there is risk of a recurrence of the movable kidney.

DR. WEEKS, of Maine, said the sutures should be of silk and should be passed through the substance of the kidney, including the capsule, then through the muscular fascia and be fastened to the posterior part of the incision.

The Radical Cure of Hydrocele.—This paper was read by DR. D. C. HAWLEY, of Burlington, Vt. The only known method of absolute cure of hydrocele is the complete obliteration of the tunica vaginalis. Treatment by injection fails sometimes because it is improperly done. Again where the tunica is so thickened that it will not collapse.

Injection by Iodine.—This is painful and causes swelling, confining patients to bed from three to five days, and three to four weeks before recovery. Carbolic acid is less painful, but requires the same length of time.

Incision and Irrigation.—During the past three years the author makes an incision about two inches long over the anterior surface of the tumor; the fluid is allowed to escape; the sac is irrigated and the edges stitched to the skin with black-silk sutures. The interior of the sac is irritated by being rubbed with the finger-tips; the sac is then packed with iodoform gauze and the patient kept in bed. In twenty-four hours the gauze is removed. Strips of adhesive plaster and a light dressing of gauze with adhesive strips around the scrotum is all that is now necessary to secure equal compression, and the suture should be removed in four or five days. Should a sinus be found it should be treated on general principles. Two or three dressings are all that in necessary, and in from six to twelve days the wound is entirely healed. The patient should be kept in bed during the first three or four days, and the scrotum suspended when he gets up. In all his cases treated this way he has had a radical cure. Its advantages over the injection treatment are: quicker results, less pain, and almost absolute success in all instances. This method is not open to the objection of using anæsthetics, as it can be done with cocaine.

DR. MACLEAN, of Detroit, said he had seen many different operations for hydrocele, but in his experience the injection of iodine has been as good as any plan brought forward. In every one of his numerous cases he had tapped and injected strong iodine, and in some cases had used Churchill's. The patient is made to stand up, and a good-sized trocar is plunged into the sac, every drop of fluid pressed out, and two drachms of strong iodine injected. The scrotum shaken violently ending the operation. He does not put his patients to bed nor keep them in the hospital, but allows them to go about their business, and he has never failed, except in one case, which was an enormous double hydrocele with complications.

Dr. Maclean's views were indorsed by Drs. Gaston, of Atlanta; Vance, of Kentucky; and Rodman, of Kentucky.

In closing the discussion, DR. HAWLEY stated that statistics gave about twenty per cent. of failures in the injection method. In his open method, should there be any disease of the testicle, it would be disclosed.

What Advance has been Made in the Surgical Treatment of Hernia? was the title of a paper read by DR. W. B. DE GARMO, of New York. After passing upon all the well-known methods which came into existence since 1876, he took Bassini's as the one which gives the best results. In this method sutures that are not quickly absorbed should be used, and while McBurney uses silk in his operations, we now use kangaroo tendon. The canal being cleared of all foreign substances, repair begins at the internal ring, and the canal is thus completely obliterated. In operating, opening the canal its entire length is one of the most important things done lately. All fat should be removed, as it acted as a wedge and could be the cause of reopening the canal, and the sooner we recognize the sac as a foreign body, the better will be the results obtained.

DR. WEEKS wished to know whether all cases were to be operated upon for radical cure. He thought all cases which could be controlled by a properly fitting truss should not be operated upon.

Appendicitis.—DR. JOHN B. DEAVER, of Philadelphia, Pa., read a paper with this title. There are many sceptics as to the course of this disease and its radical cure. The diagnosis is easily established. Upon palpation you find a localized point of tenderness. This point of tenderness is of great value. Excruciating tenderness indicates pus. Temperature is not reliable, but a sudden fall often indicates a perforation. Regarding the point of tenderness he had seen cases where it was referred to the left side. Foreign bodies are often retained in the appendix without causing any trouble until a cold brings on a catarrhal inflammation and the foreign substance then causes suppuration. The prognosis depends largely upon whether the operation has been done early in the disease. If the general peritoneal cavity has been invaded, the prognosis is so much the worse. With perforation into the bowel, recovery is the rule; perforation into the bladder is very fatal.

Treatment.—All cases of appendicitis should be operated upon as soon as the diagnosis is made, for there is no possible way of foretelling whether you shall have perforation, gangrene, or pus, or that it will

be a simple catarrhal inflammation. Regarding the danger of operation, one hundred operations without a single death requires no comment. Early operation can be regarded as more of a conservative treatment than a radical one, as one attack is almost sure to be followed by subsequent attacks. Early operation is a comparatively easy procedure, but after pus has been formed the operation demands the best of judgment and skill.

In the operation one should avoid the median incision, because it necessitates a large incision, and the peritoneal cavity cannot be so well protected from infection. Drain the abscess before removing it. Unless you do remove the appendix the operation has not been a curative one. The McBurney operation is the best for chronic cases and prevents hernia.

Dr. J. McFadden Gaston, of Atlanta, said early diagnosis and treatment were essential, but it was not always so easy to determine you had a case of appendicitis. He had a case in which all symptoms were absent while pus was present in abundance.

Dr. McGonigal, of California, said in all early operations his patients recovered. Cases not operated on until four or five days had elapsed, died.

Dr. Quimby, of New Jersey, thought there was a serious mistake in treating every case as a surgical case. In small places where expert surgeons could not be obtained what should be done? He treated this disease as he would peritonitis. We want early treatment and should not resort to the knife and abandon all medical treatment.

Dr. Wyman, of Michigan, said his experience was limited to cases where suppuration already existed, the delayed diagnosis being due to the powerful contraction of the abdominal muscles. As to the cause of the disease, he believed there was a geographical distribution of it, as in malaria, and foreign bodies were merely coincidents.

Dr. Murphy, of Chicago, asked how a diagnosis can best be made? Within twelve hours after the first attack. The varieties of infection governs the symptoms. A blistered condition of the peritoneum, as though parboiled, was far more fatal than the mere presence of pus.

Dr. Marcy, of Boston, indorsed Dr. Murphy's opinion.

Dr. Hawley thought rigidity of the muscles on the right side of the abdomen was evidence enough for operation in every case.

Dr. Herring, of Cleveland, did not think we should be in too much of a hurry to operate.

Dr. Willard believed in early diagnosis and lateral incision.

Dr. Ransohoff, of Cincinnati, thought in cases of circumscribed abscesses the removal of the appendix was not necessary for a radical cure. Drainage appeared to be sufficient.

Dr. Deaver, in closing the discussion, said fully fifty per cent. of his cases, where the appendix had not been removed, had a recurrence of the trouble.

Radical Interference in the Diseases of the Chest was the subject of a paper by J. McFadden Gaston, of Atlanta, Ga., in which he made plea for early operative measures, especially in emphyema.

In the discussion which followed this paper Dr. Smith, of California, claimed to have made experiments upon the rabbit, and by packing the chest with gauze he could stop the hemorrhage and the rabbit recovered. If this can be done with an animal of so low vitality how much better it might be done with man. He believed as much could be done with the pleura as with the peritoneum.

The paper was discussed by others, and the concensus of opinion was that in empyema the best results were obtained from early diagnosis; resection of as many and as large a part of rib as necessary and drainage.

The Treatment of Malignant Tumors by the Toxins of the Streptococcus of Erysipelas was the title of a paper by Dr. Nicholas Senn, of Chicago, Ill. In all of his cases the treatment proved a failure. The effects produced by actual attacks of erysipelas and those produced by injections must differ, because in one instance by limiting it to the superficial lymphatics it must in certain cases result in an obliterance of those pathways. In certain exceptional cases, by obstructing these pathways you might limit the extension of, or completely cure, the disease. In many cases cures were claimed, but the diagnosis had not been corroborated by clinical or microscopical examinations.

The toxins he used were derived from three different sources. He cited nine cases in which he had used from twenty-five to seventy-five injections of from three to fifteen minims at a dose. He failed to obtain a cure in any instance, and in some of the cases the injections aggravated the local and general condition of the patient. The treatment was resorted to only in cases which could not be operated upon, but in no single case were there the slightest beneficial effects produced. However, as nothing else could be done for this class of cases he proposed continuing his experiments with it, but he believed in a year or two this remedy must be relegated to the past.

Dr. Coley, of New York, was invited by the chairman to open the discussion. During the past four years he had treated with the toxins 84 cases of malignant diseases; 43 of these were sarcoma, and 27 carcinoma. His results were 11 cases of sarcoma and 2 cases of carcinoma cured. Since the reading of his last paper he had two additional cures in sarcoma. With 11 successful cases he did not think the remedy stood in much danger of being relegated to the past.

The questions to be answered are: 1. Have toxins any curative effect? 2. Is the cure temporary or permanent? 3. What form of tumors are susceptible to it?

Eleven successful cases answers the first question. As to permanency, three of his cases have gone two years with absolutely no return of the disease. Third question: until the present time I advocated the treatment of nothing but sarcomas. Different forms of sarcoma yield differently. In some cases he had no success whatever.

Dr. Reginald Sayre, of New York, said, while he had no personal experience with it, he had seen some of Dr. Coley's cases before treatment and saw them one year afterward, and they showed no evidence of a return of the disease.

Dr. Fenger, of Chicago, had used it in twelve cases with no benefit.

Dr. Wyeth, of New York, eleven years ago used injections of arsenic around a tumor. It caused great pain and excited wide-spread suppuration, resulting in the man's recovery. He thought this might reconcile the different reports. He had used Dr. Coley's toxins in a case of epithelioma with no result. He thought the good results might be due in great part to the inflammatory action of the injection, which destroyed the rank cells of the growth.

Dr. Herring cited a case where he removed a growth from the abdomen. This growth reached down to the knee. After the operation, erysipelas set in, but it appeared to have no effect except that after the attack the growth appeared to go on more rapidly. This was repeated several times, and the only result was an aggravation of the disease.

Dr. Keen, of Pennsylvania, said he believed the statements made by Dr. Coley were true. However, he had not much faith in the treatment, but used it for two reasons. One, he was not prepared to condemn it; the other, when he met with such cases he would use anything that held out any hope. He proposed to try it further until convinced of its hopelessness. He obtained his toxins from Dr. Coley himself. He used it in cases of sarcoma and carcinoma, but in every instance was disappointed, excepting possibly one. This was a

case of a large angio-sarcoma of the brain. This tumor was too large to be removed entire. At first he removed a portion and subsequently still more, and afterward injected toxins. Two months after ceasing the injections he saw no shrinkage whatever. Some time afterward, when he saw his patient again, the wound had healed over and a great shrinkage had occurred. Whether it will prove a cure he does not know, nor could he say whether it was due to the toxin or not. He had seen cases of abdominal tumors pronounced as sarcoma disappear of themselves.

Replying to Dr. Wyeth's question DR. COLEY thought the action was not entirely a local inflammatory action, for in several of the cases the tumor disappeared without any breaking down whatever, simply absorbed.

Tumor of the Naso-pharynx and Neighboring Parts.—DR. JOHN A. WYETH, of New York, read a paper entitled: "An Original Osteoplastic Operation for the Removal of Large Vascular Tumors Growing in the Vault of the Naso-pharynx, Antrum of Highmore, Spheno-maxillary, and Pterygo-maxillary Fissures." He first inserted a cannula into the median cephalic vein and had a quantity of salt solution ready for immediate use. The incision was made along the temporal arch, down parallel with the nose to the level of the ala-nasi, and then brought outward and upward, making an oblique incision. The tissues were dissected loose and carried over, exposing the bone. He then with a key-hole saw separated the frontal bone from the malar bone. The hemorrhage was terrific. At this point he injected a pint of the salt solution. After the removal of the malar bone by depressing the zygomatic bone he had full access to the cavity and the tumors were removed. The various structures were replaced without any bone sutures, everything healed over nicely, and the patient has excellent motion of the eye. The operation lasted but an hour and a half, and about five pints of salt solution were injected in all.

Tumors of the Mammary Gland was the title of a paper read by DR. W. L. RODMAN, of Louisville, Ky., in which he advocated the early and complete removal of the entire mamma, together with the muscles and all surrounding tissues.

Is Total Extirpation of the Rectum Ever Justified? was the title of a paper read by DR. J. M. MATTHEWS, of Louisville, Ky. This operation has been strongly endorsed by many, but some operations have only to recommend them being done more to test the efficacy and methods of others. There is also a rage in some surgical work, but he is the best surgeon who studies his subject from all standpoints and much responsibility rests upon his decision. Many do not stop to consider whether the new method is as good as the old or not.

Is it justifiable to extirpate? First, is the patient ever cured by the operation? Is he benefited or relieved by the operation? How difficult it is to decide whether we have systemic infection, especially in cases of malignant rectal disease. By the time the growth in the rectum has assumed sufficient size to call attention to it the surrounding tissues are already affected. It is one of the bloodiest operations attempted. He said that one could not cut wide of the growth without invading vital parts, and if all the surrounding tissues could not be removed, why should the operation be performed?

Colotomy and Extirpation in Cases of Cancer of the Rectum.—This paper was read by DR. L. H. ADLER, of Philadelphia, Pa. These are two recognized operations, but the writer never saw a single patient who was benefited by the operation of extirpation. Colotomy retards the growth of the cancerous tumor. It substitutes a painless death for a painful one. It prevents intestinal obstruction, enables the patient to sleep, eat, and be comfortable while he lives, and is a much less dangerous operation than extirpation.

The foregoing three papers were discussed together.

DR. KEEN, of Philadelphia, agreed with Dr. Rodman in removing the entire mamma, muscles, and all surrounding tissues likely to be involved. He believed the incision should be beneath the clavicle, along the border of the sterno-mastoid muscle, and every gland removed. This would not increase the mortality of the operation. He knew that English operators claim a high mortality in this, but not so in America. Four hundred and eighty-nine English operations gave a mortality of forty-six. Four hundred and sixty-four American operations gave but four deaths. He believed in extirpation of the rectum. Its mortality has been small and the relief immense. Two years ago he removed the entire rectum in two cases, but in both cases preceded it with a colotomy. He removed the coccyx and a large part of the sacrum, and both patients are well to-day. In another case the rectum, uterus, ovaries, tubes, and all the posterior wall of the vagina were removed, and the woman is perfectly comfortable.

DR. FENGER, of Chicago, thought that while the operation was an extensive one the patient must take his chances, and by doing such operations we might be able to save some.

DR. JACOBSON said that the operator who claimed rectal extirpation the bloodiest operation did not know the methods of to-day. He knew of no operation for malignant tumor less bloody. He lost no case in this operation where the surrounding tissues were not infiltrated, and the rectum should be excised in every case.

The papers were further discussed by DRS. DAVIS, TIFFANY, MARCY, and others, and while opinion was equally divided as to the advisability of the operation, all agreed that it should only be done early in the disease.

In closing the discussion, DR. MATTHEWS called attention to the fact that all of his opponents agreed with him in the main. Total extirpation in inoperable cases were the ones he referred to, and it was one of the bloodiest of operations. Are you justified in doing this operation when all the speakers admit that the cases never come to you until the tissues are invaded? Dr. Keen's report is of only two years. After colotomy cases live six years. Can extirpation show as good results? All these gentlemen say they preceded extirpation with colotomy, and since colotomy relieved them, what was the object of extirpation?

DR. RODMAN said that Dr. Keen's statistics for breast operations went back to 1870, which accounted for the high mortality, but he did not think in Germany during the past five years the mortality was higher than here. The English have a high mortality because they do not keep up with the times.

Electrolysis in the Treatment of Sacculated Aneurism.—DR. D. D. STEWART, of Philadelphia, reported a case of this sort. Gold wire of a sufficient calibre to form spirals was passed into the centre of the aneurismal cavity. Ten feet of wire were passed into the sac. The current was passed without interruption for seventy-five minutes. Before the expiration of half an hour the blood had congealed sufficiently to enable the needle to stand up without support. The operation caused no pain. Three weeks afterward, the upper part of the sac not being entirely occluded, we repeated the operation, but only two and a half inches of wire could be passed at this time. A perfect cure resulted.

SECTION IN MEDICINE.

THIRD DAY, THURSDAY, MAY 9TH.

The Complications of Malaria was the title of a paper read by DR. J. M. ANDERS, of Philadelphia. He had collated the statistics of 2,122 cases. In 1,780 of these, all occurring in the hospitals of his own city during the past twenty years, statistics were sufficiently full and accurate to authorize deductions therefrom. The cases could be classified as follows: Intermittent, 1,434; re-

mittent, 75; malarial cachexia, 27; chronic and irregular forms, 22; unclassified, 222. Of all this number 189 presented distinct complications, viz.: Heart disease, 21; enteritis, 21; neuralgia, 18 (11 of which were supra-orbital); albuminuria, 14; pleurisy, 13; rheumatism, 13; phthisis, 12; typhoid fever, 8; œdema, 7; pneumonia, 6; jaundice, 5; hepatitis, 5; besides some 30 other maladies occurring from one to four times each. He believed that some conditions commonly called complications were in reality symptomatic of the malarial state. In certain chronic conditions (heart troubles, tuberculosis, and nephritis) there might be shown a pre-existing predisposition to malaria, and he was of the opinion that malaria does promote phthisis.

Pleurisy may arise in the course of paludal attacks, but it is probably distinctly secondary. There was some doubt as to the connection of pneumonia with the condition. There was undoubtedly a periodicity of pulmonary symptoms coincident with the malarial crises. Only one pneumonia case in the foregoing list proved fatal, and all occurred in connection with the intermittent type. Of the 6 cases 5 were lobar and 1 catarrhal or lobular. This complication was undoubtedly more common in southern than in northern latitudes.

As to typhoid fever, both poisons could undoubtedly exist at the same time in a given individual, but this is rare. As to the so-called hybrid typho-malaria, he believed it to be more common in the South, and yet he believed that if the blood was examined many of these cases would be found to be pure typhoid. Periodic febrile cases, etc., do occur in typhoid, and the intermittent type of this disease is of a favorable nature.

In discussing the paper, Dr. Rochester inquired if the pleurisies and pneumonias had occurred more frequently on the left side. He thought that if this was the case it might have some relation to the enlarged spleen. He believed that the typhoid temperature often intermits without any malaria.

Dr. Hollister had seen much malaria in the first year or two of his practice. The cases were characterized by rapid cell disintegration, yet did well during the warmer weather on anodynes and quinine, but upon the advent of cold weather they did much worse, and the disease seemed to assume an epidemic character with arachnoid congestion and cerebro-spinal meningitic symptoms. During the next year in the same locality, the poison seemed to expend itself on the pulmonary tract, first as catarrh, and second as serous transudations and infiltrations into the lungs, and many of them were fatal. He believed that the antecedent blood-cell disintegration offered a very fertile medium for the development of Koch's bacilli.

Dr. Anders, in closing the discussion, stated that no observations had been made as to the side involved in pulmonary complications. Most of the pleurisies had been plastic rather than of a sero-fibrinous nature.

The Relative Condition of the Two Ventricles with Reference to the Administration of Digitalis.—Dr. Robert H. Babcock, of Chicago, presented a communication with this title. According to the text-books, the indications given for the use of digitalis in cardiac disease were a weak, rapid, and possibly irregular heart, a low pulse tension, possibly a mitral murmur, a dilated right ventricle, and dropsy. In dilated heart there was a relative arterial anæmia and a relative venous and capillary engorgement. The clinical history of a case of heart disease was given, in which there apparently existed every indication for digitalis, but the drug did harm. The case finally improved on nitro-glycerine and strychnia nitrate. We must distinguish between the actions of foxglove on the two ventricles. The coronary arteries are probably the regulating mechanism under these circumstances. Digitalis is probably useless in dilatation of the right ventricle, and is also probably indicated in extreme cardiac dilatation. We can give the heart a chance by the preliminary abstraction of from eight to ten ounces of blood, or purgatives may answer.

Cardiac Instability Due to Acid Auto-intoxication.—Dr. W. T. English, of Pittsburg, Pa., read the paper. He said that a study of chemical processes in the body explains many of the conditions which we call diathetic. Many abnormal heart phenomena are due to acid accumulation, and acid excretion is contemporaneous with cardiac and vascular irritability. The heart grows weary from disturbance in the nutritive supply to the myocardium. Dilation ensues, with inefficient valvular closure from peripheral tension. Dyspepsia offers a good illustration of the effects of acid excess on the heart. By the agency of the blood the endocardial ganglia and the endocardium itself first became affected, and later the myocardial ganglia through the irritation of the coronary arteries. First of all, we had a sort of cardiac exhilaration, then a shortened systole, and, finally, a lessening of ventricular force and a coming to rest in a state of diastole. Reduced alkalinity of the blood also led to capillary spasm. Similar results followed the exhibition of acid remedies. The pulse tension is increased. The excess of acid may be stored up in the liver, but this organ has an eliminative power, as has also the bowel. Not so, however, with the heart, as it cannot eliminate, and consequently bears the brunt of the strain. Many people live on the acid line, so to speak. Ordinarily they do well; but increase the acid by drugs or food, and they suffer. The acidity of the body is normally greater during sleep, and there is a diurnal acid tide within limits of health gradually rising toward the late hours of the afternoon. The fatalities in heart diseases and cardiac anguish commonly occur at those hours when the normal acid tide is at its height.

Therapeutics of the Senile Heart.—Dr. A. F. Pattee, of Boston, read a paper with this title. He claimed that in old age the heart returned relatively toward the cardiac condition in childhood. In infancy the vessels are thin and yielding, while in senility they are rigid and stiffened. Finally, the striated muscle of the heart ceases to respond to the demands made upon it, or dies from malnutrition, and death ensues.

In treatment reference must be had to diet, rest, and drugs, and the writer then gave in great detail the various dietetic regulations and drug combinations he was accustomed to employ in his cases. He would avoid stimulants, and would insist upon the use of beef recently killed and not kept in cold storage. Dinner should invariably be taken in the middle of the day, water kept down to a minimum in œdema, and longer intervals should elapse between meals. Cardiac disease sometimes increased the appetite. All condiments should be given up, and vegetables largely, except baked potatoes with cream. Tobacco was prohibited, and also tea and coffee, though the latter might be replaced by certain aromatic infusions. The clothing should be of silk or wool. Warm baths alone should be taken, and hot-air baths with great caution. As to drugs, the writer named over various combinations—including many not usually employed at the present day—and gave the prescriptions in full. Where iodides were indicated, he preferred, as less irritating to the stomach, the modern combinations with rubidium and strontium, rather than the older ones with potassium and sodium.

In the discussion on all the foregoing papers Dr. Rochester took issue with Dr. Babcock as to the indications for digitalis. He believed that an excess of ventricular strength on the left side over that on the right was a contra-indication. As to Dr. English's paper, he thought that the acid idea had been carried too far and that the auto-intoxication theory cannot be invoked to explain all cases of cardiac irritability. He would object to Dr. Pattee's drug combinations as overdosing. He believed that stimulants are useful, and would prefer whiskey. We must consider the heart

not alone, but with reference to the rest of the circulation. To quiet a nervous heart he had found nothing equal to opium.

Dr. Sears, of Wisconsin, noted the uselessness of heart tonics, so-called, so long as œdema or ascites exists. We must first relieve the latter by purgation or venesection, and then our diuretics will act.

Dr. Chapman, of Louisville, had examined the stomach contents in nearly thirty patients with reference to lactic acid. While this appeared during digestion it should disappear three or four hours after a meal. In rheumatic cases it was constantly found, and he believed that it was this acid which caused the endocardial lesions of rheumatism.

Dr. Charles G. Stockton, of Buffalo, did not believe that heart disease was often caused by acid intoxication.

Dr. G. W. Webster, of Chicago, maintained that Dr. English had made no distinction, in speaking of acid-producing foods, between vegetable and mineral acids. The former are split up in the body and excreted as alkaline carbonates, and therefore could not possibly increase the acidity of the system.

Dr. English denied that the latter fact had been proven.

Toxic Origin of Nervous Diseases.—Dr. Albert E. Sterne, of Indianapolis, presented a communication with this title. He declared that inflammations of both the central and peripheral nervous organs were, in a great measure, due to the effect which certain discovered and undiscovered toxins exert upon them. In some the result is speedy, as in poliomyelitis anterior; in some the toxin is the product of micro-organisms, as in diphtheritic and typhoid affections, while in others the poison is of an inorganic nature, as in lead, arsenic, mercury, and alcohol. It has been the aim of pathologists and neurologists for many years to attribute the lesions of well-known diseases of the nervous system to defects of a congenital nature or to retarded development. Prognosis in such cases must necessarily be unfavorable. An exterior exciting cause is frequently manifest. The following propositions, therefore, can be laid down:

1. We find as sequelæ of affections of known microbic origin inflammations, and, secondarily, degenerations in both the central and peripheral nervous elements. 2. After and during the course of such illness as may be justly supposed to be due to bacterial invasion, we find characteristic symptoms from the side of the nervous system denoting organic disease of the tissues of the system. 3. By analogy we may infer that both of the former classes are due to the effect of the microbes themselves or to the production of poisons by them. 4. This analogy is given by the two following subdivisions: *a*, The inflammations and degenerations found in the nervous tissues as the result of toxins of non-microbic character; and *b*, those notably due to the presence in the nerve elements of micro-organisms or their products.

The writer has examined sections of blood-vessels taken from cases of many of the common nervous diseases. It cannot be said that there was any constant degree of pathological alteration, and yet in all the condition of the vessel walls differed markedly from the normal. The changes seemed most marked in cases of syphilis and in post-syphilitic tabes and senile dementia. All the layers of the arterial coat are affected. In the main the process is one of cell proliferation, effecting increase in the volume of the vessel wall at the expense of the vessel lumen. Even where fragmentation of the vessel walls has occurred, and where the intima or adventitia are loosened from the media, this increase persists. Very often the lumen of the vessels is entirely obliterated just as in syphilitic endarteritis. In several specimens enormous numbers of leucocytes were present in the vascular tissues. In several instances slight hyaline degeneration was present, but not constant or widely diffused. Thrombosis seems more common in the chronic, and fragmentation more usual in the acute, diseases, as poliomyelitis and myelitis. In the cases of scarlatina and diphtheria, which were all rapidly fatal, evidences of acute inflammation and extravasation predominated over all other changes. Fragmentation and varying degrees of tearing and loosening of the various coats also obtained.

In epilepsy and chorea the same changes were noted minus the signs of acute inflammation. The innumerable minute hemorrhages present indicated that some agent, probably toxic, had exercised considerable influence upon the vessel walls. The state of the vascular system in the marantic conditions investigated, namely, the tubercular cachexia, and anæmia and alcohol, showed no great divergence from that described above. It is in syphilis, however, that the vascular lesions are most intense and wide-spread. It may be that different parts of the nervous system possess decided affinity for certain toxic agents.

The discussion was opened by Dr. George J. Preston, of Baltimore. He said that the vascular changes in tabes occurred in an especially interesting and remarkable manner. Cervical tabes was relatively rare and generally secondary. The blood-supply of the lower cord, the usual seat of the disease, was from branches of the intercostal arteries, which were types of vessels easily sclerosed. They were small, and given off at right angles from the parent trunk. Atheromatous material was therefore easily heaped up at their mouths. Hence nutrition to the lower part of the cord is diminished. He had found that nitro-glycerine given early in locomotor ataxia greatly relieved the pain.

Dr. Patrick, of Chicago, was willing to admit the influence of toxic agents on the nervous system in alcohol, syphilis, mercury, and lead. While it must be remembered that all children are neuropathic, he would not go so far as Dr. Sterne in including the changes in the vessel walls as primary lesions. The first alteration is in the nerve-centres. The poison-conveying blood is first brought to them, and the vascular wall changes are secondary. He doubted the correctness of Dr. Preston's views. Tabes is not now regarded as a disease of the posterior columns. The effect of nitro-glycerine don't prove anything. It increases the nutrition of the posterior root zone, and in so far was commendable, but it must be remembered that sclerosed vessels do not readily dilate under this remedy.

Effects of Oxygen.—Dr. George J. Preston, of Baltimore, read a paper on "The Effect of Pure Oxygen Introduced into the Body in Various Ways upon the Hæmoglobin." He first gave a *résumé* of the work of various writers. In his own experiments it was noted that there was for the first few minutes little increase in pulse-rate or rise in arterial tension, but respiration was lessened in frequency. It was a disputed point whether inhaled oxygen gave more oxygen to the red cells than did ordinary air. He had placed animals in a glass jar containing caustic potash to absorb the expired CO_2, and had then turned on a stream of pure washed oxygen from a cylinder. The following results were noted with rabbits:

			Before Inhalation.	After Inhalation.
1.	Time, 5 minutes.	Hæmoglobin....	58 per cent.	58 per cent.
		Respiration	100	200
2.	" 15 "	Hæmoglobin....	52 "	80 "
		Respiration	100	80
3.	" 30 "	Hæmoglobin....	58 "	62 "
		Respiration	100	60
4.	" 60 "	Hæmoglobin....	52 "	67 "
		Respiration	100	35

Similar experiments in dogs gave similar results. A series of experiments was also undertaken with men, to whom the drug was given in the usual manner. The results were as follows:

						Before Inhalation. Per cent.	After Inhalation. Per cent.
1.	Weight, 140 pounds.		Time, 7 min.		Hæmoglobin	.82	92
2.	" 160	"	" 5	"	"	.78	87
3.	" 150	"	" 6	"	"	.76	83
4.	" 190	"	" 5	"	"	.80	95

No special symptoms were noted. There was no exhilaration and no quickening of the pulse, no increase of oxygen in the plasma, but all the red cells seemed to get their full complement of oxygen. During chloroform inhalation, it was found in one instance that hæmoglobin fell from 80 to 68. And Da Costa has found a like thing to exist with ether. In ordinary respiration some red cells do not seem to be fully satisfied. The paper closed with a general plea for the more extensive use of oxygen in lung diseases. It can easily be given by rectal injection.

Lead Encephalopathy.—Dr. A. E. Roussel, of Philadelphia, reported a case of this affection. The patient, an artist, aged thirty years, had gradually run down and become very anæmic. Cells were fifty per cent., and hæmoglobin eighty-five per cent. The second cardiac sound was accentuated and the urine concentrated, but contained no albumin or sugar. Three days later he had an excruciating attack of colic and constipation. Lead was found in the urine and the blue line on the gums. The manner of entrance of the poison was believed to be due to his habit of cleansing his brushes in water and afterward wiping them on his lips. In addition to the gum-line there were patches of a similar character on the inner side of the cheeks, which grew white when washed with oxygenated water.

The patient's condition grew gradually worse in spite of treatment, and suddenly, while walking on the street one day, he fell to the ground unconscious, experienced violent convulsions, and went afterward into a condition of violent delirium lasting all night. It was so violent that a straight-jacket was necessary, and the temperature rose to 101.6° F. The urine was drawn, but no albumin or sugar found. The administration of ether by inhalation was followed by profound sleep, from which the patient awakened after seven hours, fully conscious, and convalescence was speedily established.

The exact cause of these cerebral conditions we do not know. In fatal cases the brain tissue has been found yellowish, hard, and friable, and lead in the cerebral tissues, but the same condition has been noted in other maladies. In many cases of plumbism the anæsthesia and hyperæsthesia and the headaches have been relieved by bromides better than by the iodides. Recent statistics from modern literature show the records of some eighty cases with a mortality-rate of about seventy per cent. The writer has recently seen two cases of asthma due to lead, but there was not the expiratory dyspnœa characteristic of true asthma. The great indication in the head cases is to induce sleep. In lead colic and constipation better results have followed the administration of larger doses of olive-oil than of any other remedy. The pain has ceased before bromides have had time to act.

Typhoid Fever.—The opening paper was read by Dr. J. E. Woodbridge, Youngstown, O. His views on treatment have already been published.[1]

He believed that we could divert death in every case of the disease and that if treatment is begun by the eighth day we could abort every case. His present reports contained the records of fifty-eight additional cases. He declared that there was no doubt as to the correctness of diagnosis, and believed that he had aborted a large number of doubtful cases. He read corroborative testimony from other physicians covering about six hundred cases in all. Of these nine have died. In all the rest the average duration of the disease has been twelve days. He believed that his plan of treatment, in view of his experience in recent years, eliminated the dangers of perforation and hemorrhage and averted all the other dangers of the later stages of the disease. His theory of causation was that the disease was due to a special poison of possibly microbic origin.

The paper above referred to contained in full the remedies he usually employs. They are combinations of calomel, podophyllin, guaiacol, carbonates, eucalyptol, menthol, and thymol. Diarrhœa does not contra-indicate their employment. The result arrived at was complete intestinal antisepsis. As the case improved he left out the calomel and podophyllin and increased the guaiacol. The remedy could be employed in capsule, as the substances given were rather irritating to the mucous membrane of the mouth.

The discussion was opened by Dr. Heller, of Wisconsin, who had tried Dr. Woodbridge's remedies, but he took a general issue with the latter as to their value. He believed, however, that the antiseptic treatment was in the line of rational therapy.

Dr. Uhler, of Baltimore, had endeavored to obtain the same results with carbolic acid in glycerine and sulpho-carbolate of zinc.

Dr. Sykes, of Ohio, had had good results with the Woodbridge treatment. Frequently it has not aborted the disease, but it has changed it to an intermittent or remittent type.

Dr. W. E. Quinn, of Chicago, believed that no one ought to discuss this paper who had not had personal experience with the method. Abortive typhoid is not an unusual occurrence, and the diagnosis must be guarded by a most careful examination of the blood and urine.

Dr. Woodbridge in closing stated that he rarely bathed his patients and gave no stimulants. He does not even order his patients to bed, and allows them beef and steak if they so desire. He generally gives his remedies in capsules, as owing to their pungent nature they are irritating to the mouth and pharynx.

Cholelithiasis.—The next paper was read by Dr. George W. Webster, of Chicago, on "The Differential Diagnosis of Cholelithiasis." Statistics show that ten per cent. of all men, twenty-five per cent. of all women, and thirty-six per cent. of all the insane have gall-stones; but of all these only one per cent. experience any symptoms therefrom. For such patients medicines are useless, and an early diagnosis of their condition is imperative, for they more often need reference to a surgical clinic than a trip to Carlsbad. He divides them into two classes: 1, Those with stones in the cystic duct or gall-bladder; and 2, those with stones impacted in the common bile-duct. In the former, jaundice is the exception, while in the latter it is present and persistent.

In the first variety the earliest symptom is colic. It is referred to the duodenal region, is sudden and of varying severity. If very severe, convulsions ensue. Nausea, vomiting, chilliness, fever, and sweating are all present. The pulse is frequent, small, and soft. Collapse and cramps in the voluntary muscles are not uncommon. Physical examination shows a dilated gall-bladder, while in the second variety atrophy of this viscus is the rule. The tumor is continuous in dulness with the liver and moves with the respiration. Auscultation may reveal the friction sound of the stones moving on each other. If stones are found in the fæces, the diagnosis is certain. They are, however, often dissolved in the bowel. Differential diagnosis lies between gall-stone and lead colic, malarial poisoning, gastralgia, peritonitis, and renal colic. In lead colic there are other plumbic symptoms, as the gum-line, the urine reaction with potassium iodide, anæmia, and multiple neuritis; in malaria the spleen is enlarged, the chills periodical, and the blood shows the plasmodium; in gastralgia there is no fever, no palpable tumor, no reference of the colic to the ingestion of food, and no jaundice follows the attack. Many of the patients are hysterical or neurasthenic; peritonitis gives its own peculiar clinical picture and is not likely to be mis-

[1] See Journal of the American Medical Association, March 30, 1894.

taken for biliary colic; in renal colic the pain is generally lumbar, running down to the scrotum and causing testicular retraction with vesical tenesmus, blood and pus in the urine, but no bile. As to the tumor itself, it must be differentiated from cancer of the head of the pancreas, ecchinococcus cyst, impacted fæces in the colon, and movable kidney.

Where the stone is in the common duct any operative interference is, of course, a serious matter, though it may be imperatively demanded. Persistent but varying jaundice signifies a movable stone. Colic occurs from time to time, and bile is constantly present in the urine with the general features of cholæmic poisoning due to the degeneration of the hepatic cells. Slight albuminuria may be present with lessened urea and quantity. Excrementitious retention leads to melancholia. Jaundiced urine is convulsive and not narcotic. The stools are scanty and clay-colored. The pulse is slow; there may be septic endocarditis, blood disintegration, low vascular tension, anorexia, and coated tongue.

In the physical examination of these cases we may not detect atrophy of the gall-bladder, though that generally exists. The stone is in the common duct, and this position illustrates the remedial insufficiency of merely anastomosing the gall-bladder with the duodenum. It is wrong to leave the stone *in situ*, for there is danger of its irritating surrounding structures and so leading up to a malignant growth at that part of the gut where the pancreatic and common bile-ducts empty.

The paper was discussed by DR. JOHN H. MUSSER, of Philadelphia, who called attention to the prevalent error in most text-books as to cholelithiasis being almost unknown before middle life. He himself believed that such a symptomatic condition might show itself as early as the fifteenth year. He related the case of a young man of twenty-four who suffered from hepatic colic of undoubted nature, who stated that he had been subject to such attacks ever since he was thirteen, though the condition was not diagnosticated in his earlier years. Pain is not constant in biliary obstruction. As to gastralgia, he believed that many cases so called were in reality due to gall-stones. He was inclined to doubt the existence of this condition except in neurasthenics with stomach trouble, in gastric crises of certain nervous disorders, as tabes, etc. As to operation, the indications therefor depended on renal inadequacy and the state of the red cells. When the latter fell below three million per c.mm. structural disintegration proceeded much more rapidly. In one case the number had gradually fallen down to three million and then fell with startling rapidity to eight hundred thousand. Cases of pneumonia had at their onset been mistaken for gall-stones, and *vice versa*. We frequently have in this condition a febrile movement of an intermittent type.

DR. F. B. TURCK, of Chicago, spoke of the differing views of the Germans and the French as to the cause of the constitutional symptoms of cholæmia. The former regarded them as of microbic origin, while the latter declared them to arise from the accumulation of waste products in the circulation, and the latter were undoubtedly right. The urinary inadequacy in these cases could be determined by the centrifuge more quickly than by any other method.

The Wisdom of Physical Examination for Recruits has been Exemplified in France.—Five thousand conscripts, who were passed into the French army three months ago in spite of their physical incapacity, have been discharged within the last few weeks. The extreme severity of the weather has told upon them to such an extent that bronchitis and pneumonia have become prevalent.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

REPORT OF ASYLUMS BOARD—THE OPIUM COMMISSION—VOLVULUS OF SIGMOID FLEXURE—TUBERCULOSIS OF SACRO-ILIAC JOINT—ENLARGED PROSTATE—INTRA-THORACIC GOÎTRE—RELATIONS OF SEPTIC THROAT INFLAMMATORY DISEASES.

LONDON, May 3, 1895.

THE Report of the Metropolitan Asylums Board is rather a serious document from a tax-payer's point of view, for the cost increases at a terrible rate, and it is proposed to build two more fever hospitals, an infirmary for imbeciles, and establish three more ambulance stations. In 1889 the hospital expenditure was £350,000. Now it is close on £600,000. Of course the number of admissions has also increased at a somewhat similar rate, and nearly half the notified cases are now treated gratuitously in the Board's hospitals. The Board boasts that it protects the metropolis from infectious diseases, but when we read of so many thousands of cases being admitted, and remember that these are less than half the number of notifications, it would seem that much remains to be done in the way of protection. In the treatment of these cases no doubt great good has been done, and the Board is to be congratulated on its wise position in reference to diphtherial antitoxin as well as other matters. If the metropolis could really be protected from infectious disease the cost would not be worth discussion, nor would the profession grudge the sacrifice it must make of its income by gratuitous State treatment on such an enormous scale. It only remains to hope that we are approaching with steady if slow marches to the goal of safety.

Let me refer again to the Opium Commission. It is obvious that the conclusion in favor of *laissez faire* has astonished those who were anxious to put an end to the traffic in this drug in India, but the evidence preponderates so greatly against their prepossessions that it will be no easy task to impugn the conclusion. Some discontent is felt, and will perhaps make itself heard, but the judgment of practical men seems to be that the question must be regarded as settled for a long time to come. It is difficult to regard opium-eating as a beneficial practice save in exceptional circumstances, but the report shows that it is a far less injurious habit than alcohol-drinking, and perhaps not much worse than tobacco consumption. No doubt some cases of injury from excess in opium occur, but they are not nearly so numerous as they have been represented.

Volvulus of the sigmoid flexure is rare, and cases treated by abdominal section with recovery of special interest. Dr. F. L. Benham and Mr. Silcock have had such a case, which was duly related at the meeting of the Clinical Society last Friday. The flexure was twisted half a turn on itself. After reduction the wound was closed and dressed antiseptically. There was no peritonitis. The relief from the operation was immediate. A large quantity of fæces passed naturally. There was slight pyrexia. The last stitches were removed after ten days, and the wound was soon after completely healed. The patient was up and about in a month, looking quite well. Only one or two parallel cases have, I believe, occurred in this country, and only nine or ten have been recorded altogether.

Some interesting remarks followed, on the liability of the condition to recur, and on cases having some analogy with this. The President, Mr. Langton, thought incision of the gut an excellent plan to relieve distention, and Mr. A. Lane considered the best plan was to resect the whole sigmoid flexure and join the divided ends. Dr. Benham in reply thought the non-return was due to care in keeping the bowels open. At the same

meeting Mr. Golding Bird related cases of tubercular disease of the sacro-iliac articulation treated by early erasion on the plan he advocated long ago. He urged early operation, as in other tuberculous joints, and said pain elicited by pressure over the root of the posterior inferior iliac spine was a valuable indication of inflammation in the joint. The after-treatment was simple, and the patients were soon about again. One adult could bear his weight and walk about in eight weeks.

Mr. Croft was glad to see early interference in this as in other joints. Years of suffering and incapacity were thus prevented. The abandonment of splints after operation was a further advance. The diagnosis was certainly difficult in the early stage, and he had in several cases been unable to elicit the pain on pressure.

Two cases of castration for enlarged prostate were reported by Mr. Mansell-Moullin, who wishes to call the operation "orchotomy" instead of orcheotomy, as some on your side have done. The Greek verb ὀρχοτομειν signifies to castrate.

Mr. Langton mentioned that many years ago after removal of a senile tuberculous testis from a patient who also had enlarged prostate, that organ diminished in size on the corresponding side. Three years later the other testis was removed, as the tubercle had appeared in it, and this second operation was followed by diminution of the prostate on that side. The patient is now alive and well.

Mr. Gould removed a tuberculous testis from a young man the year before last, and the second testis early this year. After the first operation there was no decrease of the prostate, but a great shrinking after the second.

Mr. Bowlby then related a case of intra-thoracic cystic goitre, causing attacks of severe dyspnœa in a woman of thirty-four years. He evacuated more than a pint of fluid from the cyst at the operation several months ago, and it has not reaccumulated.

At the last meeting of the Royal Medical and Chirurgical Society Dr. Felix Semon read a paper on the "Probable Pathological Identity of the Various Forms of Acute Septic Inflammations of the Throat, Hitherto Described as Acute Œdema of the Larynx, Œdematous Laryngitis, Erysipelas of the Pharynx and Larynx, and Angina Ludovici." He fully stated the reasons which had induced him, in spite of the absence of bacteriological evidence, to submit his ideas on the question of the nature of acute septic inflammations of the throat and neck to the judgment of the Society. He commented on the confusion which existed in the nomenclature of these inflammations. He tried to show that the various forms of acute septic inflammation of the throat and neck, hitherto considered as so many essentially different diseases, were in reality pathologically the same; that they merely represented degrees varying in virulence of one and the same process; that the question of their primary localization and subsequent development depended upon accidental breaches of the protecting surface through which the pathogenic microorganism, which caused the subsequent events, found an entrance; and that it was positively impossible to draw at any point a definite line of demarcation between the purely local and the more complicated, or between the œdematous and the purulent forms. In support of this view he alluded to fourteen cases, two with full notes of post-mortem, and endeavored to answer the objections which could be raised against his views.

Mr. Hutchinson (President) thought Dr. Semon was not making an advance, but was falling back on old-fashioned views, which had not been departed from by some. He was prepared to go further and say that many of these diseases were transmutable. He doubted if œdema was the same as erysipelas of the larynx, but the one might develop from the other; but believed that there was a contagious form of catarrhal laryngitis. He had seen a case of œdema of the larynx which ended fatally, and which appeared to be produced by exposure to cold, and not by septic influences. The influences of these diseases might undoubtedly be intensified by transmission.

Dr. de Havilland Hall and Dr. Sharkey supported Dr. Semon.

Mr. Lockwood said that much would turn upon the sense in which the term "pathological identity" was used; for identity of bacteriological invasion was not necessarily identity of disease. In acute angina ludovici there was a streptococcus invasion, and the same was highly probable of acute inflammation of the pharynx, larynx, and tonsils. An acute abscess of the arm might be due to staphylococcus aureus, and a peritonitis might exist, due to the same streptococcus, yet no one would say that the diseases in the arm and peritoneum were identical; it was necessary that there should be identity in the tissues which were attacked. In these inflammations about the neck and throat, it was improbable that there was an identical bacteriological invasion in all. Fetor was common in angina ludovici, and this was always due to a bacillus. In one case bacilli were found which produced gas, and this could not be considered bacteriologically the same as when streptococcus pyogenes was found. As to the tissues attacked, there was the widest difference: in one case the invasion might be about the epiglottis, and in another about the tissues of the neck. Cutaneous erysipelas of the neck was not angina ludovici, but quite different, and the three varieties of erysipelas differed from each other.

Mr. Buslin said the paper made the subject more complicated than before. Mackenzie, in his work, had included these affections, except Ludwig's angina, under one head, and no accurate description of Ludwig's angina existed. There was no sufficient proof in the paper that these diseases were identical, either in their appearances, their physical structure, their clinical characters, or their pathology. In these diseases very few bacteriological examinations had been made, and very few inoculation experiments performed. Then the paper quoted observations to show that no less than ten microbes might produce the same pathological condition, and ten conditions might be the result of the action of one microbe. After hearing the paper he was more confused than ever.

Mr. Harrison Cripps said that he sympathized with Dr. Semon in his desire for uniformity, but he could not admit that that goal had been attained. Many different pathological conditions might produce a similar affection.

The debate was adjourned to the next meeting.

THE MORTALITY OF CASTRATION FOR ENLARGED PROSTATE.

To the Editor of the Medical Record.

Sir: Mr. A. G. Faulds publishes in the *British Medical Journal* (May 4, 1895) a series of cases of castration for enlarged prostate with results which are so remarkable that, as he alludes with surprise to my statistics, I cannot refrain from comment. He reports five cases of double castration with four deaths, a mortality of eighty per cent. In three of the four mania preceded death. No other explanation of the fatality is given. In the fourth case hemiplegia, followed by death, occurred on the twenty-seventh day. In two other cases his "friend and teacher," Mr. H. E. Clark, did a single orcheotomy, but both these patients died after showing mental aberration. No mention is made of an autopsy in any case. Mr. Faulds's fifth patient was alive at the end of thirty days, but showed no improvement.

Double castration in prostatics is an operation so recent that an accurate estimate of its mortality is not

yet possible. It will, of course, vary greatly with the condition of the patient, especially as regards general atheroma and precedent renal infection. Guyon considers the hypertrophy of the prostate as the result of a constitutional disorder beginning as arterial sclerosis. While I do not accept this theory of causation, the frequent association of the two conditions is a matter of common observation. It is obvious that either with or without operation such patients will often die from hemiplegia and will still oftener die with symptoms associated with various degrees of cerebral degeneration, or with the mental phenomena of uræmic intoxication.

I have no wish to underrate these risks. If I have suggested an operation which will not stand the test of experience the sooner that fact is known the better. But I must protest against such communications as the one in question being regarded as valid arguments at this time. Mr. Faulds asks, after referring to my statistics (gathered from various sources), and to the cases of Mr. Fenwick, "would it not be educative and equally important to give the details of non-successful cases?" It undoubtedly would. The details of a few carefully observed and thoroughly studied unsuccessful cases would probably be of more use just now than larger numbers with better results. But Mr. Faulds's "black list," as published, does not meet the requirements.

In only two of the seven cases is the age given. In only one is the size of the prostate estimated. In two the urine is said to have contained "pus and blood;" no other urinary examination is alluded to. In only one is the amount of residual urine mentioned. The condition of the patient as to general health is not once described.

In other words nearly all the factors upon which prognosis is based have been omitted. Moreover it is stated of these patients that "some had been relieved so far, of bladder and kidney disturbance by perineal section, all with the object of minimizing the immediate and remote effects of the operation." Perineal prostatotomy in such cases has a mortality of its own. It seems to me inconceivable that any one familiar with the literature of the subject should perform it "with the object of minimizing" the effects of castration. It will doubtless often be the operation of choice, and its previous performance need not necessarily prevent a later castration, but the combined operation would certainly have a higher mortality than either prostatotomy or orcheotomy alone.

Double castration is one of the oldest known operations, and when performed in average subjects for local disease or injury is now generally regarded as almost without danger. Butlin estimates the proper mortality of single castration in malignant disease at about two per cent.

I shall shortly publish a complete statement of all the cases I have been able to collect, both successful and unsuccessful. In the meantime I would respectfully ask that a mortality of eighty per cent. for double castration and of one hundred per cent. for single castration be regarded as unusual and unnecessary even in prostatics.

I am sir, yours, etc.,

J. WILLIAM WHITE.

1810 S. RITTENHOUSE SQUARE, PHILADELPHIA.

The Women's Institute of Medicine in St. Petersburg, which was closed by order of the government some years ago, is about to be opened once more by command of the Czar. Former students who have obtained their degree will be allowed to practise as medical practitioners.

Food and Drink of Parisians.—During the year 1892 the inhabitants of Paris drank 101,664,190 gallons of wine and ate 3,520,000,000 pounds of meat.

SILVER NITRATE IN THE TREATMENT OF GONORRHŒA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the issue of the MEDICAL RECORD of May 4, 1895, Dr. Frederick A. Lyons advocates the use of a four per cent. solution of silver nitrate in the early treatment of gonorrhœa. In the cases enumerated, unless one examines them carefully, he will fail to recognize an important factor in those cases which made so rapid a recovery. Every one of them had had previous attacks, whereas those cases with which he had so much difficulty were those giving no history of past attacks. It is a well-known fact that "old rounders," who boast of having had gonorrhœa scores of times, seldom visit a physician, and are usually able to cure themselves of fresh invasions in a few days.

The following arrangement of the cases reported will show that the nitrate-of-silver treatment is anything but a success:

		Time of Cure.
Case V.	No previous attack.....	5 months.
Case VIII.	No previous attack.....	4 weeks.
Case XII.	No previous attack.....	6 weeks.

This gives us an average of ten weeks in the treatment of cases not previously affected.

Without going into detail, mark the results obtained in those who had the disease before:

		Time of Cure. Days.
Case I.	Several previous attacks.....	1
Case XI.	Numerous previous attacks.....	1
Case XIV.	Same as Case VIII. + 1 attack.....	1
Case II.	Numerous previous attacks.....	3
Case VI.	Same as Case II. + 1 attack.....	2
Case III.	Numerous previous attacks.....	3
Case IX.	Numerous previous attacks.....	6
Case XIII.	Same as Case IX. + 1 attack.....	3
Case IV.	Two previous attacks.....	6
Case VII.	Same as Case IV. + 1 attack.....	5
Case X.	Same as Case III. + 1 attack.....	18
Case IX.	Several attacks + chronic urethritis...	6

Giving an average of nearly five days.

From this we may conclude that nitrate of silver may be used where the urethra has gotten into a state of callousness, but in previously healthy urethras the treatment seems not only useless, but rather injurious.

Very truly yours,

E. P. HERSHEY, M.D.

DENVER, COL., May 10, 1895.

PSYCHOLOGY AND THE PRACTITIONER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The editorial in this week's MEDICAL RECORD on "Psychology in the Education of the Physician" is interesting because anything that reflects on medical education is interesting, yet the drift of the article turns one's thinking not in an opposite but in another direction. All through the life of a physician the supernatural is expected of him too often, and the result is cant in more senses than one. "If doctors knew more," etc., is only one more instance of "the slender tendrils of the mind, snatching at and laying hold of abstract notions" concerning an ideal doctor of godly proportions and misty configurations. Not long ago a distinguished philosopher told the world that doctors (that is, practical medicine of a scientific type) were too much burdened with scientific principles, and had too little real knowledge of what will help to prevent failure in their careers. When saying all this, Hartmann took in things from the outside, and not from an elevated or elevating stand-point. Like Marshall he is an outsider and really does not know, and is dealing with abstractions, and not with a condition of affairs, as they are, or can, or may be. Anything that cannot be understood or put into action may be said to be an abstraction. How is it possible for doctors to be everything that every-

body—the doctors often included, and too often—say they should be? The other night at a dinner a medical professor claimed that the practitioner in our day must be more than a dispenser of advice, drugs, and remedies to his patients, and he set the clown's cap on all his proud words by pointing to Koch, "the country practitioner."

Perhaps Koch was studying psychology and psychiatry and all the other ologies while he was hunting for bacilli and almost starving for want of practice. Koch had mental bias, like all of us, and he had the mental force and quality to do it justice, although bread and butter was his object; and, just because he failed in bread-and-butter pursuits he succeeded as a scientific discoverer. High ideals of what the general practitioner ought to be did not help Koch to lay hold of the bacilli he discovered, but his training plus his bias, his likes, and whims did. Now, Mr. Editor, only the other night some of us doctors, who graduated fifteen and twenty years ago, were speaking of the methods according to which we were taught, and of the superior training the students of to-day were put under. And yet our time was fully occupied in accumulating the knowledge that we were obliged to consider necessary to the making of a doctor. And what more can be expected? The conscientious student of to-day has no time to waste in spite of better methods. We certainly have not outgrown the facts of time and place; and these facts deserve consideration in the fixing of what the student of medicine as a candidate for the rights and honors of practitioner of medicine (for that is what M.D. means) ought to be examined on.

The student ought not to be overburdened! And unless godly homage is what doctors may claim as a right, godly attainments must not be expected of them!

Bismarck is an exceptional man, and he is that because he understood the give-and-take qualities of human nature; but what does Bismarck know of "the modern principles of psychology"? Bismarck brought his psychological insight with him when he entered the political arena—he was born with it.

Modern psychology is analytical, and very full of hypotheses; but as knowledge it is good, and we doctors do not mean to deny it recognition and cultivation.

What some of us do protest and struggle against is being overcharged with principles that we should bring with us to our medical studies, and not be obliged to stand in fear of some examiner's interpretation of principles concerning which differences of opinion exist, and which do not help us "to deal with the problems of errant human nature." Let us cultivate all the ologies, let us develop science and the scientific investigator, but let us cease placing the practitioner in a false light by reflecting the faint glimmerings of whimsical abstractions on him and exhorting with all the power of rhetoric unknowing laymen to believe that candlelight is better than daylight illumination. A sponge will absorb just so much and no more, no matter how big the tub may be into which it has been thrown. So don't drown your poor student. Medical psychology comes with medical study and practice.

ADOLPH RUPP, M.D.

406 WEST THIRTY-FOURTH STREET,
May 25, 1895.

A Frightful Remedy for Coryza has been proposed by a certain Dr. Maurel. He advises the introduction into the nostrils of a pledget of cotton impregnated with iodoform powder, and also that iodoform lozenges be allowed to dissolve in the mouth of the sufferer.

Bicyclers are not allowed to ride in the streets of Berlin, as they are in most cities, and now names are being collected for a petition to the authorities to make the streets accessible to them.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 25, 1895.

	Cases.	Deaths.
Tuberculosis	94	128
Typhoid fever	9	2
Scarlet fever	93	7
Cerebro-spinal meningitis	0	0
Measles	297	32
Diphtheria	225	30

Foot-and-mouth Disease has been quite prevalent in Berlin during the past winter, and there have been a number of cases in the human subject.

Vaccination and Confirmation.—Archbishop Walsh, of Dublin, has recently issued instructions to the clergy of his diocese to the effect that no one shall be admitted to confirmation or instructions in preparation for it who has not been vaccinated, or who, having reached the age of seven years, has not recently been vaccinated.

The Three Most Common Diseases in California are tuberculosis, cancer, and rheumatism.

Hospitals on Wheels.—It is proposed to build some travelling hospitals for infectious diseases to be used in sparsely settled places in the north of England.

The Beaven Rake Memorial.—The subscription list to this fund has now been closed. It has been decided to spend part of the money in the erection of a memorial tablet in Guy's Hospital Medical School, and to hand the balance to Dr. Rake's widow and children.

The Latest Sensation in Paris is the alleged discovery by a M. Groussier of an infallible law whereby the paternity of children who have no acknowledged father may be ascertained.

The Three Causes of Women's Diseases.—Dr. Balls-Headley finds in our social system three great causes of disorder of the female generative organs: Mental culture, by which physical development is often sacrificed to mental training; female dress, the faults of which it is needless to particularize; and unsatisfied sexual desire. The latter includes, of course, the unsatisfied desire for maternity. In civilized communities more than half the women under thirty years of age are unmarried; in other words, the sexual instinct, during the first half of its existence, is in most women ungratified. Hence spring, in Dr. Balls-Headley's opinion, many sexual disorders.

A Russian Censor on Mushrooms.—The Russian censor Korasovsky once erased from a book on natural history the chapter treating of the noxiousness of fungi, on the ground that "fungi form the favorite food of devout Christians on fast-days, and whoever declares them to be noxious seeks to undermine the Christian faith and to diffuse irreligion."

Professor Bunsen, the noted chemist, famed for his discoveries in spectral analysis and other scientific matters, celebrated his eighty-fifth birthday on March 31st. He gave up teaching five years ago, but still lives at Heidelberg in excellent health.

The Fee for a Professional Visit in Nottingham, England, is one shilling, according to a correspondent of the *Medical Times*. Even then the medical man often has to take it out in trade with the small shop-keepers, who refuse to pay such exorbitant charges in cash.

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Original Articles.

ON THE CONSEQUENCES OF HYPERÆMIA AND THE PATHOLOGY OF INFLAMMATION AND SUPPURATION.[1]

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THE writer's purpose in presenting at least the first part of the following paper to the Fellows of this Association is avowedly and distinctly to challenge or to provoke kindly criticism. I purpose to take up a presentation of some of the elementary topics in surgical pathology which are dealt with in general treatises and in students' text-books, usually in the opening chapters, and to endeavor to show that in our presentation of these subjects we have been usually inaccurate in expression and incorrect in our teaching of elementary pathology. If now, I am right in this, then there is sufficient reason for alteration in the method of teaching and improvement in subject matter of the same. On the other hand, if I am wrong and it can be so shown, it is not likely that I shall again tax your patience with anything of the kind.

Purely mechanical and traumatic disturbances and the surgical infectious diseases, more particularly the local manifestations of the same, have about the same apparent beginning, that is, in either case there are certain local phenomena which follow more or less a classic order, their character being, in either case, the same in gross appearances up to a certain point, after which there is the widest possible variation in local manifestations and in systemic complications. In time past all these manifestations have been grouped under the general term of "inflammation," and we have been taught that inflammation at one time is congestion with slight exudation; at another, hyperæmia with copious exudation; at another time, that it leads to pus production; and that at yet another its final result is hyperplasia and tissue new formation with more or less induration. These widely different terminations have provoked the introduction of certain adjectives; and hence we have had described "simple inflammation," "acute inflammation," "infective inflammation," "chronic inflammation," etc. My thesis now is that the term inflammation ought to be confined exclusively to one distinct class of lesions, namely, those produced by micro-organisms, and that for other lesions into which the question of infectious micro-organisms never enters, be they acute or chronic, mild or destructive, the term "inflammation" should never be applied, but that we should call such lesions what they really are, that is, that the name applied should be based upon the pathological lesion.

It is well enough to say that all inflammation begins with congestion, which may be true; but there are very many congestions which never terminate in genuine inflammation, and I would prefer rather to describe congestion as something which may be provoked by certain exciting causes, of which bacteria may be one, in which case the congestion itself is subsidiary, and in a measure accidental or conservative. Or, rather, I will make myself more plain as follows: Let us suppose a mechanical disturbance such as has led, for instance, to a violent sprain of the knee-joint. What phenomena do we note? The old *calor, rubor, dolor, et tumor* of our forefathers, along with disturbed function, which signs increase in intensity up to a certain point, when the process seems reversed and manifestations fade away in inverse order. What does all this mean? That there has been dilatation of vessels with active escape of fluid from the same into the cavity of the joint, and to some extent perhaps around it; that the redness is caused by the hyperæmia, the pain by the tension and pressure on nerves, the heat by the same cause as the redness plus some more active chemical change, and the swelling by the escape of fluid into previously existing cavities, fluid which has leaked from the vessels, as is well known it may. Let everything go well and this fluid is quickly taken up by the absorbents, veins, and lymphatics; the vessels return to their natural size; the pain and redness and swelling subside, save for perhaps a little chronic thickening of the parts, which may last for a considerable time, and which represents a too great amount of actual cell activity or proliferation around the area first involved, activity which is, in large degree at least, conservative. Here now we have had the phenomena of hyperæmia, exudation, and resorption, the first due to traumatic influences, the last to the conservative powers of the system.

I maintain, then, that the redness and heat should here be spoken of as evidences of hyperæmia, that the swelling should be described as due to exudation, and that this may be more accurately described, and that the speedy resorption should be pointed to as evidence of the speedy subsidence of the irritation which first provoked the diseased condition, *i.e.*, of the fact that the cause had ceased to act, and that it should all be regarded as an expression of reparative power, which, however, may perhaps have gone to excess, perhaps even to absurd degree, permitted to take this course partly by constitutional causes, partly by lack of proper treatment. And I maintain further that this should not be spoken of as "inflammation." But let now this exudate have become infected from any source, the question of source not now being that under discussion, but in a general way, be it from within the body or from without, and let micro-organisms once secure access to the parts within, and how quickly is the whole clinical picture changed! Now we have not only formation of pus and the condition which we would speak of as purulent synovitis or pyarthrosis, but we have unmistakable, perhaps serious, perhaps even fatal constitutional disturbances, all of which go to indicate the serious character of that which has begun in the joint. This now deserves the name of "inflammation," in fact, this is inflammation, and is a condition as different from that portrayed just before as is storm from calm. It is, in other words, a condition of congestion and exudation plus the specially disastrous characteristic, infection. Without infection, no genuine inflammation; with infection, inflammation, and what always goes with conflagration, more or less destruction. Congestion and exudation practically never lead to destruction; inflammation always does. Congestion and exudation provoke little, ordinarily no constitutional symptoms; inflammation always does. Even

[1] Read before the American Surgical Association, May 30, 1895.

from a trifling furuncle on the nose one may have an elevation of two or three degrees of body temperature.

I have said above that congestion and exudation never produce destruction. Rarely they do, but by pure accident of location and by mechanical activity. This may occur through intensity of active exudation, or by loss of tissue irritability and contractility, which permits enormous passive exudation. Or, to put it in another way, stagnation of blood may permit gangrene, although even here moist gangrene is a question of infection, but in another way and from another source. We have also the hyperæmia of paralysis and the hyperæmia of irritation; but most of the cases of gangrene with which we have to deal, being practically only those produced by intense heat or cold, or by pressure, are due to the intensity of the infectious process, which includes exudation, but includes much else that is not comprised within that term.

I think we cannot go far wrong in this matter if we accept the definition of inflammation proposed, for instance by Metschnikoff, which is in effect as follows: Inflammation generally must be regarded as a phagocytic reaction on the part of the organism against irritants. This reaction is carried out by the mobile phagocytes, sometimes alone, sometimes with the aid of the vascular phagocytes, or of the nervous system. The irritants herein alluded to are, of course, micro-organisms. This definition is based on a comparative study of phenomena presented by living cells when exposed to such irritation and studied in the lowest forms of life, as well as in others higher in the animal scale. It is necessary to emphasize the fact that the essential phenomena of inflammation represent an actual struggle between the phagocytes and the irritants, or, as Virchow has aptly termed it, a battle of the cells, and that pus and pus cells represent simply the débris, and are really the dead bodies of animal cells which have perished in the struggle. As Metschnikoff has pointed out, some of his critics, like Franco, for instance, have claimed that this phagocytic theory presupposes extraordinary powers on the part of the protoplasm or the cells which are to become the phagocytes, and to which are attributed sensation, or a kind of psychical activity. But that the animal cells possess some such activity has been shown by many observers independently, and the name coined in latter years, "chemiotaxis," has been designed especially to recognize and make plain this fact. The explanation for the peculiar attraction between bacterium and cell by which the latter endeavors to become a phagocyte is probably as remote as it ever was; but, be this as it may, the action is unmistakable, and phagocytosis is no longer a term, nor a fiction of the imagination, but is a proven fact.

It does not do to say that inflammation is a reaction of the organism against injurious agents and nothing else; since, if this is the case, it often happens that the phagocyte refuses to act just when the organism is most threatened. The law of phagocytosis is but one expression of the law of natural selection. Still, to pursue this interesting train of thought would take us too far away from the primary object of this paper.

Let me now propose to you some such basis of text-book arrangement and classification as follows: I would begin with hyperæmia and congestion, which we may consider for present purposes as synonymous, and would speak first of the physiology of the blood-vessels and the control of the vasomotor nerves, and would show how temporary alterations in the circulation of a part may be determined by even trifling or purely temporary causes. I would show, for instance, that a mild degree of hyperæmia may be perpetuated for a considerable length of time without other perceptible alterations, and that such changes are largely under the control of the nervous system. I would show, next, that in the presence of minute tissue lacerations or disturbances, such as may have been produced by a great variety of mechanical causes, such as are comprehended, for instance, in the conditions called "sprain," "frost-bite," "burn," "chafing," etc., that there are more active changes in the direction of increase in size of the vessels, engorgement of the part, stagnation of blood-current, cellular activity outside the blood-vessels, escape of blood serum, which literally leaks out from the vessels whose walls are put upon the stretch, or at least the cohesion of whose walls has been affected, and that in the presence of certain favorable surroundings, as in loose connective-tissue, or into normal cavities, such serous out-pour may be excessive. I would show next that along with this may go pain and the other unmistakable objective evidences by which a diagnosis is easily effected. Then I would show that this was to be clinically regarded as an excess of effort in the right direction for repair of damage, and that the efforts of the physician should be confined to control of these manifestations within certain reasonable limits. Next, that within a certain length of time a subsidence of these phenomena may be expected, which are to be explained by the re-entry of escaped fluid elements into the circulation, by the gradual restoration to normal size of the enlarged blood-vessels, and that some thickening or permanent manifestation may be looked for if the process has been more than very temporary, because the longer it goes on the more actual cell activity there is with tissue new formation. To this there should then be added that under certain circumstances exudation may occur so actively that the integrity of surrounding parts may be threatened, and that it is well sometimes to interfere, as with scalpel or aspirating needle, in order to relieve tension.

Then I would go on to show that under certain other conditions the acute disturbances thus set up subside only to a certain point; after which there appears to be cessation of retrograde phenomena, as the result of which there is maintained a condition of slight hyperæmia and of tissue-thickening which may persist for a long time, as well as the results of the same in the character of undue sensitiveness, pain, etc. These are the phenomena ordinarily spoken of as chronic inflammation, which in this scheme should be described as hyperplasia due to previous cell activity.

Again, I would speak of certain other changes which are due to mechanical disturbances or irritation so trifling in degree, but so continuous in persistence that by very gradual changes there are brought about conditions in which we recognize tissue new formation with, perhaps, pressure effects upon vessels, etc. In other words, I would group under these heads the phenomena often spoken of as "cirrhosis," or as chronic inflammation which was never anything else—*i.e.*, which never had an acute beginning. And in this connection I would show that the irritants which produce such effects are sometimes chemical poisons circulating in the blood—such as alcohol, uric acid, etc.—and that under the influence of certain unknown poisons—*e.g.*, that of syphilis—similar effects can be produced.

Finally, I would in an entirely distinct chapter, and in an unmistakably separate way, take up the matter of inflammation—*i.e.*, infection—and would endeavor to show that *pari passu* with the extent of invasion we have an exceedingly speedy evolution of hyperæmia with exudation, which now, for the most part assumes the solid form—*i.e.*, that the albuminoid constituents of the blood-serum quickly coagulate in the presence of the micro-organisms, and that in consequence of the presence of these minute irritants there is a most lively activity on the part of certain corpuscular elements circulating within the blood and found in mesoblastic tissues, which at once assume the rôle of phagocytes and make their way or are carried to the scene of activity as speedily as possible, when the scene quickly becomes a veritable battle of the cells, in which the invading enemy—*i.e.*, the bacteria—wage a tiny war, to a certain

extent somewhat after the fashion of savage tribes, by using poison—*i.e.*, by producing toxines and ptomaïnes—and that the question of survival of the tissues involved, or of the organism at large, is practically summed up in the question of its endowment of vital resistance and of the fighting properties of its component cells. In case the invading micro-organisms are conquered, the battle-field is known as an abscess, or as an area of purulent infiltration, with more or less sacrifice of tissue. Whereas, in case they conquer, there is very extensive destruction of tissue, or else there is loss of life on the part of the larger organism thus invaded. Or, to put it another way, a local abscess or its equivalent shows the site of a single battle-field on which the pus represents the cells which have perished in our defence. On the other hand, the symptoms which are everywhere recognized as constituting septicæmia or pyæmia, indicate that the invasion has been wholesale and along numerous different lines, and that the miniature conflict is being repeated in many different localities within the human body; while death is an expression practically of a victorious invasion and consequent famine, tissues which have not been actually conquered being practically starved to death or poisoned.

I would then take up the matter of pus-formation in both its pathological and clinical aspects, but first in the former, and would enlarge upon the fact that it is never produced as the result of hyperæmia alone, but requires always the invasion of certain micro-organisms which act as specific irritants, which practically always determine a very lively "battle of the cells," this being the result of most active migration of leucocytes and wandering cells and their enlistment as phagocytes.

Of the various substances known at different times or known collectively as pus, I have elsewhere treated at length (see my Mütter Lectures on Surgical Pathology), but desire again to call your attention to certain differences which I insist upon should be made, if for no other reason at least for scientific accuracy. I maintain that it is very unfair to consider the discharge from a healthy granulating surface, which is nothing but excess of formative material gone to waste, and which is so often called pus, in the same light with the contents of a circumscribed or diffuse collection of pus due to staphylococci, streptococci, or other obligate pyogenic organisms. Study for a moment what they have in common and how they differ. The material from a granulating surface consists of excess of cellular elements which have been formed by parykinetic proliferation of pre-existing cells, in some measure by emigration from the blood-vessels, but in large degree by multiplication of connective-tissue cells while in their active state. These are sent to the front, as are fresh soldiers in battle, for the purpose of forming new tissue. Nature does this thing usually in excess, and under the stimulus of health and various external applications there is much more cellular activity going on everywhere than these rapidly growing tissues can avail themselves of. Consequently waste material is discarded, and may easily become contaminated with organisms from the surface, which may thus be found in it, and yet that may be in no wise concerned in its production. Such material is almost harmless, and is but little more than a mere nuisance or annoyance. Moreover, when we find so much material, we usually find that it is an expression of some cessation of cell activity, and means that granulation—*i.e.*, repair utilization—has stopped. In other words, such material is, in some measure at least, an expression and index of activity of reparative processes. It lacks ordinarily all infectious properties. How different pathologically, if not in gross resemblance, is such material from that found in an acute phlegmon which is due to bacterial activity, and where now every so-called pus-cell represents a leucocyte or a connective-tissue cell which has perished in the battle of the cells, but which has died fighting nobly, grasping or having incorporated into itself the body of at least one of its enemies, sometimes several bodies. I grant you that the materials from the two sources may look much alike, but I think there is no one who will contend that they are even essentially the same, because one is actively poisonous and infectious and harmful, and needs to be gotten rid of as soon as possible, while the other is harmless and is simply an expression of nature's having overdone a good thing.

From both of these I would differentiate again a material which belongs always rather with the former substance than with the latter, namely, an exudative substance, in large measure a solid exudate, found in drainage-tubes and underneath air-tight dressings, where an absolutely aseptic course of wound-healing has been maintained. This is the material which sometimes fills up and in a large measure plugs a drainage-tube. It is the filmy-like layer which may be found underneath a piece of green silk protective, for instance, which has been placed over a surface where, perhaps, we have been making a skin grafting. It represents, as in the first example, a quantity of good reparative material which has been furnished in excess of the actual requirement. Later, bacteria enter and contaminate this, and it becomes at once like ordinary pus. So long, however, as it be kept free from bacteria it forms only a gelatinous mass or film, harmless, but responding quickly to the slightest invitation to infection.

Fourthly, I must further draw your attention to the material found in old abscesses and breaking-down foci of various infectious diseases. This is known frequently as pus, although it is notorious that all of its infectious properties have been lost and that it has almost, if not quite, lost the toxicity which it had once had, while its microscopic elements have undergone more or less change by chemical processes like calcification, caseation, etc. The surgeon of the past generation, opening an abscess of this kind, of, say, two years' duration, would still speak of its contents as "pus."

Now I maintain, and I am sure I am right in maintaining, that if these substances differ in composition, and especially in properties, it is not fair to call them all by the same name. And so, with not a little diffidence, but an insistence that I am right, I venture to propose to you the following names: For material produced in the course of an acute phlegmon, infectious, toxic, in every way undesirable, I would preserve the good old name "pus," which has fixed itself too firmly in our nomenclature to be abandoned. For material which comes from healthy granulating surfaces, or from raw tissues which have not yet had time to granulate, which is free from bacteria and has no infectious nor toxic properties, I have elsewhere proposed the name of "pyoid" or "puruloid." Finally, for the contents of old cold abscesses which have long since lost everything except the grossest and crudest resemblance to the pus which it may originally have been, or perhaps never has been, I venture the name, with hesitation and yet with good reason, of archepyon. It may be that these names will never creep into general literature, in fact this is quite likely; and whether they do or not matters but little to me so long as there does creep into the minds of surgeons and pathologists generally, exact notions regarding the actual differences between substances heretofore confused under a single name.

Is there anything in this beside straining after accuracy? It seems to me that there is, and especially so in these directions: The treatment called for in the presence of these different conditions is distinct and unmistakable, and would be unfortunate in either of the other conditions. For instance, for real, genuine pus we need the promptest possible evacuation, which may be based or formulated upon the following rule, to which I know of no exception, *i.e.*, that such pus left alone will do more harm than can the knife of the

surgeon if judiciously used for its evacuation. Pyoid or puruloid material betokens a condition that calls for little or no special treatment. Absolute cleanliness is practically all that is needed. Lastly, the presence of archepyon indicates a condition calling for extirpation of infected tissue, for complete and final disposition of that membrane known formerly as the pyogenic membrane, for eradication of all infected tissue, final disinfection of the cavity, perhaps cauterizing of its surface, in order to be sure of our work, and the deliberate provoking of the granulating process, or else the deliberate attempt to secure union by primary adhesion.

And this leads me to speak for a moment of this so-called pyogenic membrane, this being another misnomer which I have fought and shall contend against with all my might. If pyogenic means anything it means pus-producing, whereas the limiting membrane of old or cold abscesses is anything but pus-producing, but is the result of organization of cells and tissues into a dense and resisting membrane, which shall, so far as such tissues can, resist the encroachments of the degenerative process. What is such a membrane but pus-protective, or protective as against pus? This fact, I think, is generally accepted; yet men go on using the old term in spite of its contradictions. For this membrane I have suggested a name, which, I think, would quickly become acceptable to you did you use it, namely, "pyophylactic" membrane, which at once defines its purpose and does not encourage ignorance of pathology.

One or two very practical questions may properly be raised in connection with pyophylactic membrane, and with the statement of its purpose and effect thus implied in its name.

When this is met with in the average cold abscess, it is now the custom of most surgeons to extirpate it. There can be no doubt but that its complete extirpation is the speediest way of healing the entire lesion; and when this is possible it should be effected with precision and rapidity. This cannot always be done, however; and the first question, therefore, to be raised is, Is incomplete extirpation better than nothing, or does it expose to additional danger? Many of these abscesses are so complicated in shape and extent, and contain such prolongations, which are yet lined with this membrane, that they cannot be safely, or at least not wisely, followed by the surgeon. Under these circumstances it seems to me that the best course to pursue is that which I have always endeavored to practice, namely, to excise so much as one can make proper access to, and then, by the introduction of some caustic material, to destroy the balance of the membrane, and thus to effectively dispose of it by destructive measures, if not by extirpation. For this purpose I almost invariably resort to a solution of chloride of zinc, usually of fifty per cent. strength, with which the sinus is mopped out after being curetted; or in case the curette cannot be made to follow it, with which the sinus is injected. This destruction is not so ideal as that which might be effected by the actual cautery, perhaps not by nitric acid, but is efficient for most purposes. One avowed object underlying all this treatment is based upon the fact that this membrane sometimes contains tubercle bacilli which have been lying latent therein, and which may serve as excitants of further disease. After giving this caustic a little time in which to do its work, the parts are flushed in order to wash away that which might do undesirable work; after which I prefer to pack these wounds with some material steeped in a mixture of balsam of Peru and guaiacol, in the proportion of ten to one, to which iodoform may be added if desired. The objection that the caustic acts on fresh surfaces as well as old ones is not a valid one, but shows a condition desirable rather than otherwise, since the possibility of absorption of such germs from these fresh, raw surfaces is thereby removed. As the result of the action of the caustic granulations spring up from every side, and the later result usually is union by adhesion of these surfaces.

If there be any validity to the statements above made, there is every reason why, when a cold abscess is simply incised without effort to extirpate its membrane, the edges of the incision should be cauterized to prevent possibility of fresh infection; and that this is good practice no modern surgeon denies. More than this, the dread which surgeons in time past have shown, and which has been more than shared by the laity and the profession generally, of fresh accession of tubercular disease after incisions of rectal fistulæ, was one for which there used to be some justification, since we now well know that most of these fistulæ are practically tubercular cold abscesses, and that when treated by simple incision and nothing more, a fresh surface is exposed to a focus of old disease, and infection perhaps invited. But if such a fistulous track be thoroughly dissected out, or be thoroughly cauterized, so that all infectious organisms be destroyed, there cannot be the slightest objection to operating on tuberculous subjects for relief of this condition.

What becomes of the pyophylactic membrane if not treated by extirpation? Undoubtedly, it is gradually made away with, if not rapidly, by granulation tissue, the process being a complex one of removal of its component parts by phagocytic action and substitution of granulations therefor. This, however, must be provoked by the stimulus of some foreign body—for which purpose we now mostly use gauze packing—and is liable to interruption or to complete cessation, with possibility of reinfection from organisms yet alive which it may contain. The ideal method of dealing with this membrane, then, is its complete removal; next to this, its complete destruction by caustic agents; and, when neither of these two measures is practicable, the application of antiseptics and stimulating substances to it.

And now it is necessary, in order to complete the paper I have been requested to prepare, to devote at least a little attention to the specific irritants which provoke true inflammation, or which determine the conversion of a simple exudate into pus.

A few years ago, when I published the "Mütter Lectures on Surgical Pathology," given before the College of Physicians, of Philadelphia, in 1890–91, I took particular pains to make as sharp a distinction as circumstances would permit between the obligate and the facultative pyogenic bacteria—a distinction in large measure arbitrary, yet, as I held and still hold, clinically justifiable, and one which I am glad to see other writers and teachers now maintaining. These terms need but little definition. Among the obligate pyogenic forms, I place those whose function it seems to be solely to set up septic disturbance and produce pus—this constituting the whole measure of their pathogenic activity. Of course, I do not mean to imply that they are never found, except in the presence of pus, because investigations of the past few years have taught us that under favoring conditions of tissue vitality even the raw surfaces of wounds may resist their attacks. This does not destroy the validity of my statement just made, however, since whenever they exert any deleterious influence it is in the direction of pus-formation.

On the other hand, there are numerous bacterial forms whose presence is occasionally associated with pus, in whose formation they appear to have played the chief rôle, while it is well known that they may have other activities or actions as well, and that they are not necessarily, perhaps not even frequently, pyogenic.

It is well, for more than one reason, I think, to insist upon these differences, since simple comparison and scientific accuracy are not the only desirable features in making such a classification. It is not my desire here to detain you with long descriptions of these organisms, but rather to briefly catalogue them and assign them their proper positions.

The Obligate Pyogenic Forms.—By common consent we all now place first under this head the various staphylococci—namely, the S. pyogenes aureus, albus, citreus, epidermidis albus, etc., the aureus being commonly the most virulent of all, but each variety showing a variable degree of virulence, according to circumstances which are not always apparent or intelligible. One of the marked characteristics of the staphylococci as a group, containing several species, is the powerful peptonizing action which they may exert. Moreover, the chemical products of their life changes seem to be more potent, both in a local and a general way, leading to greater destruction of tissue in their immediate vicinity, and inhibiting the chemotactic powers of the leucocytes—*i.e.*, phagocytosis—by which their progress would be interfered with.

Next come the streptococci, or at least all of them which have pyogenic properties, since when these organisms manifest any pyogenic activity they do it usually in an unmistakable way. If scarlatina prove, as maintained by Babes and others, to be a modified streptococcus invasion, the microbes which produce it must be placed in another biological class than those which produce suppuration. Confining ourselves, however, to the latter, we may say that they manifest a very strong predilection for lymph tissues and lymph spaces, along which they extend themselves with great rapidity. The streptococci have much less of peptonizing power than have the staphylococci; and these two facts together serve to explain the clinical manifestations of streptococcus activity, which assumes usually the type of purulent infiltration rather than that of distinct and circumscribed purulent collection. Moreover, Cheyne[1] suggests the manner of growth peculiar to the streptococci may have much to do with their more frequent association with pyæmia, since they tend to grow in long chains which may coil up and entangle blood corpuscles; as the result of which emboli may form more easily and become more tenacious wherever they may lodge.

Whether the streptococcus of erysipelas is essentially a distinct variety from the streptococcus pyogenes is very doubtful; in fact, I think it is now maintained by few, although we are not yet in position to say just what circumstances determine streptococcus invasion shall take the clinically more or less distinct erysipelatous type or not.

Staphylococci and streptococci both have the power of producing lactic fermentation in milk, and it is quite sure that lactic-acid formation takes place sometimes along with suppuration in human tissues, causing acidity or discharge, and in abscesses causing watery pus. So far as known also, these two pyogenic forms have less power of ptomaïne or toxin formation than many others; consequently, fever-engendering suppuration is not always to be ascribed to this cause alone, for, as Baumgarten has suggested, fever may be due to tissue metabolism due to their growth, the metabolic products thus formed being perhaps pyretic. This hypothesis may be perhaps supported by adducing the fever which occurs in trichinosis, where the question of ptomaïnes has not yet been raised.

A question which is still unsettled, and which it would appear to me of very great importance to clear up as soon as possible, is the relation which cases of cellulitis, or kindred disturbances which are often confused under that one name, bear to unmistakable erysipelas. Most clinicians would make a distinction between erysipelas, of the skin, for instance, and cellulitis following an injury; and from both these conditions dermatologists like Hebra have differentiated what he called "erythema exudativum multiforme." And, again, Rosenbach has described a cutaneous disease which he has termed "erysipeloid," or "finger erysipeloid." In almost any of these conditions pus may be produced, and yet is not necessarily so in one of them, at least it does not appear in such a way as to be recognized or call for interference. I am well aware that no little study has been given to these conditions, and in the lectures above alluded to I have paid some attention to the results of the same and have given references, and yet to-day, five years later, cannot say that we can speak much more definitely than I did then. Different observers have found different organisms, and various students of the clinical side of these conditions have assured us that so much depends on the general and local conditions of the particular patient, which yet are hard to recognize and equally so to describe in words, that I fear it will be some years yet before we clearly discern the light which I hope may be shed upon this subject. It may be worth while to remind you that the streptococcus which produces the contagious mammitis of cattle, and which may attain extraordinary length in chains, appears to have pyogenic properties in the human race. With both of these organisms, staphylococci and streptococci alike, it appears that their virulence can be increased by passing them through animals. Here one meets with one of the many contradictions of bacteriology, since the very method which usually weakens micro-organisms in these instances seems to strengthen them.

Behring has offered a general classification of streptococci which has much about it that is suggestive. He makes first a class

"A. Of streptococci which attack mucous surfaces and produce certain phlegmons, pneumonia, puerperal fever, and various other lesions of serous surfaces.

"B. Streptococci which produce scarlatina and severe pyæmia. And

"C. A variety which attaches itself in large masses to the infected surface, the best illustration being perhaps in pneumonia of the horse."

Marot, writing in 1893, divided streptococci into two principal groups:

1. "Those whose growth upon potato gives no easily apparent surface marking, namely those of erysipelas, puerperal fever, scarlatina, phlegmonous, and pseudo-membranous angina, the streptococcus murisepticus, the pyogenic form of Rosenbach, the streptopneumococcus, etc. And,

2. "Those whose growth upon potato is easily seen, namely, those of normal saliva, of broncho-pneumonia, of simple angina, etc."

Finally, Paschale has proposed a classification into four groups, according to the temperature conditions and culture appearances:

1. "Short streptococci, saprophytes: *a.* Growing at ordinary temperature, *e.g.*, streptococci of fæces and of the skin. *b.* Growing at temperature above 37° F., streptococci of the mouth and respiratory tract.

2. "Long streptococci, non-pathogenic: *a.* Growing at room temperature, those from the intestinal canal, particularly the streptococcus coli gracilis. *b.* Growing above 37° F., streptococci from the mouth.

3. "Long streptococci, pathogenic: *a.* Growing at room temperature, those of erysipelas, suppuration, pneumonia, diphtheria, scarlatina. *b.* Growing above 37° F., certain forms met with in the saliva.

4. "Short streptococci, exceedingly infectious: *a.* At room temperature, the diplococcus pyogenes. *b.* Above 37° F., the strepto-pneumococcus."

Next to the forms above mentioned, I will speak of the pneumococcus of Fraenkel, of Pasteur, and of Sternberg, which seems at times to be a very active pyogenic agent. It is known to be capable of producing, for instance, septic meningitis, and has been found in brain abscesses; it is a frequent active agent also in producing empyema, and may be found under various other circumstances. In inoculation experiments it usually shows quite active pyogenic properties.

The Colon Bacillus.—I will not detain you long with this organism, since two years ago I presented a paper upon this subject before this Association, and because

[1] Treatment of wounds, ulcers, and abscesses, 1894, p. 14.

since that time numerous other observers have noted the same variations in virulence and diversity of location in which this organism may be found. I would simply wish to reimpress the fact that it is, in all probability, identical with the bacillus pyogenes fœtidus of Passet and with the septic bacillus from the urine, of Clado. It figures, not alone as the active agent in most cases of appendicitis with pus formation, but as a frequent cause of septic peritonitis not connected with the appendix; in abscesses in and about the liver and biliary tracts, even in abscesses at much more remote points, as, for instance, in the brain; and quite recently it has been noted in the pus discharged from the urethra in a case of gonorrhœa. Whether here it played the etiological rôle, one cannot say; but this is rather doubtful, since it is known to be met with in the bladder, prostate, etc.

The *micrococcus tetragenus*, sometimes known as the micrococcus tetragenus septicus, which is frequently, if not invariably, found in the human saliva, and is known to be an occasional pyogenic agent, and belongs, I take it, to the class of obligate rather than of facultative organisms, since if it produce any disturbance at all it is usually in this direction. Abscesses produced by it have a peculiar wide-spread area of induration, and pursue a course so slow as to be very suggestive. Some years ago I reported to this Association a peculiar submaxillary abscess of this kind, and since then have seen similar reports from the experience of others.

The *bacillus pyocyaneus* seems to be an obligate pyogenic organism, suppuration caused by it pursuing almost always a slow and discouraging clinical course. It is an organism apparently quite tenacious of life. My experience in this regard is perhaps peculiar, but may be suggestive. I remember three patients confined successively in one bed in one of my hospital wards, who each pursued a tedious suppurative course, blue pus being the characteristic in each instance, there being no other similar case in the ward during all this time. Whether this was pure coincidence, that three patients with chronic suppurative lesions and with this peculiar organism involved should follow each other in one bed, or whether some germ of the disease lingered in spite of all our precautions, I do not know. The bedding, of course, was so frequently changed as to be beyond suspicion, and the iron beds themselves were as carefully cleansed as could be without burning or firing them.

The Facultative Pyogenic Bacteria.—Study now the organisms—or at least some of them—which have occasional pyogenic properties. And, by the way, whether these latter be due to special activity in the organisms or favoring conditions in the tissues is not yet settled, there being here a most interesting field for research. Probably first upon this list we shall place the *bacillus tuberculosis* of Koch. Although it is well understood that most breaking-down gummata and tubercular lesions suppurate only when we have a secondary or a mixed infection, it nevertheless is, I think, indisputable that the tubercle bacillus may act alone as a pyogenic organism, displaying such properties best perhaps in the case of cranial or spinal meningitis. Here are the locations in which it is most protected from external infection, whereas in the pleura, peritoneum, kidneys, etc., it is difficult to exclude the possibility of mixed infection.

Next to these comes the *tetanus bacillus*, its pyogenic properties being, however, very slight, while its toxic abilities are very great. Nevertheless, it seems probable that even without mixed infection we may have a few drops of pus around an inoculation of tetanus bacilli.

The *bacillus mallei*, or microbe of glanders, should probably be ranged in the same category with the foregoing—most cases of suppurating infectious granulomata due to glanders being, however, examples of mixed infection. The *typhoid bacillus* has not yet been shown to be identical with the colon bacillus, and is capable when inoculated of producing suppuration in animals. Moreover, it is known in rare instances to have the same effect in man.

The *pneumo-bacillus* of Friedländer produces both sepsis and suppuration in some of the lower animals, and is known to produce suppurative bronchial pneumonia and purulent pleurisy in man. Moreover, I have myself once found it in a case of abscess of the shoulder-joint consecutive to pneumonia.

There may also be mentioned the *pseudo-tubercle bacillus* of Malassez and Vignal. This when injected into some animals produces peritonitis and a pseudo-miliary tuberculosis. Other organisms might also be mentioned here—like the *proteus vulgaris*; and perhaps in rare instances the *bacillus of diphtheria* might deserve mention here, although suppuration is not its usual mode of action.

It is not my purpose to catalogue here every organism which has ever been found in an abscess. To do this would impose an almost endless task. Those which I have mentioned above, however, have been met with sufficiently often to justify their position in the above list.

What shall be said of the *gonococcus?* Authorities differ upon this organism. Some claim that by itself alone it is never pyogenic; others that it deserves to be considered as belonging in the above category. My own mind is not yet clear in the matter, since I have never experimented with this organism in pure culture. I do know, however, that I have never found the organism alone in cases of post-gonorrhœal suppuration, and have been led to consider such as either instances of mixed infection or of primary infection not due to the gonococcus but coincident with its existence elsewhere.

Of non-bacterial organisms, of which we have so far made no mention, there are yet a few which call for it. Among the protozoa, for instance, figure the *amœbæ* which produce dysentery and pseudo- or spurious abscesses in the liver. I say "pseudo" or "spurious," because the pus, if such we may call it, from these sources does not seem to be infectious when it escapes into the peritoneal cavity or elsewhere. Here, too, must also be mentioned the various vegetable organisms which are not bacteria—such, for instance, as the *actinomyces*, the *aspergillus fumigatus*, the *leptothrix* of the human mouth, and various other organisms which it is scarcely necessary to mention here.

It is worth while just here to recall for a moment what widely variable action the same organisms may have in different animals. For instance, the microbe of chicken cholera produces among fowl a bloody diarrhœa which is rapidly fatal, while injected underneath the skin of some young quadrupeds it produces only a quantity of pus, in which the organism lives almost indefinitely and preserves its virulence. Again, the glanders bacillus, which produces such well-known symptoms in the horse, in the guinea-pig produces only a normal phlegmon.

Herewith I close a paper too long for comfortable hearing, yet altogether too short for even scant justice to the subject. I beg you to regard it, however, as a plea for more exact teaching concerning matters at one time sadly confused, now much less so, about which students urgently need to be set right at the very outset of their studies. It is never a mistake to be accurate; in surgery it is often fatal not to be.

Garbage Disposal in Southampton, England.—In this city all the garbage is burned in a furnace which was erected at an expense of $18,000, and which consumes from twenty-five to fifty tons of garbage a day at a merely nominal cost.

TWIN PREGNANCY WITH BLIGHTED FŒTUS. ILLUSTRATED WITH A CASE.[1]

By GRACE PECKHAM-MURRAY, M.D.,

MEMBER OF NEW YORK ACADEMY OF MEDICINE, NEW YORK COUNTY MEDICAL SOCIETY, NEW YORK NEUROLOGICAL SOCIETY, ETC.

TWIN pregnancies, according to authorities, occur on an average once in eighty-seven births. It is not so very uncommon, especially in the earlier months, for one of the fœtuses to die or become blighted. The death of the fœtus takes place more frequently at four months than before or after. In 19 cases of Settegast, 8 occurred at four months, 3 at five months, 2 at six months, and 6 at three months. In 29 cases reported by Kieselhausen 11 occurred in the fourth month, and in 23 cases reported by Hohl 13 occurred in the fourth month. In the earlier months it not unfrequently happens that the dead fœtus is cast off, while the other is retained, continues to grow, and is delivered at term. After the second and third months the death of the fœtus does not occasion any trouble, but the pregnancy goes on; the blighted fœtus, called by Stolz an internal abortion, being retained in one of the varying conditions hereafter to be described. An interesting physiological question is, why the pregnancy goes on without an attempt of the uterus to expel the fœtus, when ordinarily it is so prompt to do so. One does not have to go far afield to explain this. It is due no doubt to the fact that the remaining living fœtus gives to the already prepared uterus the necessary impetus to keep up the conditions inaugurated, acting in fact like a single pregnancy. Dr. J. E. Ely suggests that the disease which kills the one fœtus may be insidious, and that the change takes place gradually, and that the lowered vitality of the mother may bring about an inertia of the uterus; but the histories of these cases as a general thing show that the mother is usually well and that she is unaware of anything detrimental having taken place.

In the consideration of twin pregnancies with unequal development of the fœtuses the subject of superfœtation presents itself. It is a moot-point in obstetrical experience and literature. Some deny the possibility of such occurrence, others think that in no other way can certain cases of delayed birth be explained, always excepting those cases in which a bicornate uterus has been demonstrated, of which Klautsch has brought together a number.

In cases of single placenta with double or single sac, there would be no doubt of the pregnancy being a twin pregnancy, having developed from a single ovum with a double germ (Fig. 1). The majority of the cases reported are of this description. In these cases the delivery of one fœtus is followed in a reasonably short time by the delivery of the other. There does not seem to be any rule as to which presents first, the aborted fœtus, or the child that has developed to its natural proportions. Some cases are recorded where both heads have presented simultaneously. If, however, an interval of days, or even a number of weeks, amounting to months, intervenes between the two, it does not seem imperative, as some writers maintain, to call in superfœtation to explain the event. May it not have been that the retained or belated child, having been pressed upon by its fellow and unable to grow, had sufficient vitality to maintain itself until, having the space and nourishment all to itself, it remained *in utero* until a maturer development took place?

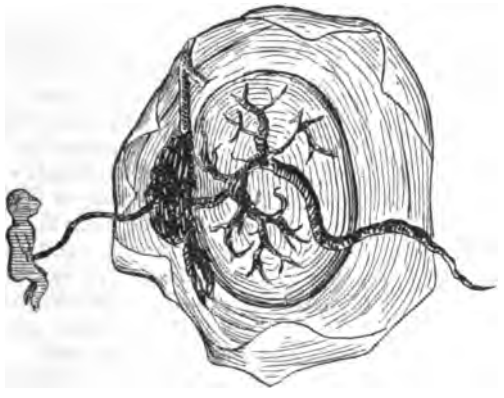

FIG. 1.—Case of Papyrus Fœtus. In the larger sac was developed the fœtus born at eight months and died during labor; in the smaller sac was found the flattened fœtus in its appearance representing a child three and one half months old. (Verrier)[2]

FIG. 2.—Compressed and Macerated Twin Fœtus.

Settegast says that in the first month of a double pregnancy it is possible for one embryo to disappear and leave no trace. From two to six months, if the fœtus dies, it goes through a species of hardening, giving rise to what is termed the mummified or papyrus fœtus, or very rarely it becomes ossified, forming a lithopædion. It remains in one or the other of these conditions, and is so found when the other child is born at term, or at a greater age. Seldom, if ever, is the fœtus found in a state of putrefaction. The contents of the amniotic sac, protected from the air, are prevented from decomposition. Considerable inquiry has been expended to ascertain the cause of this preservation of the dead fœtus, but the matter is very obvious. The air is excluded, and the bacteria cannot enter. Preservative qualities have been attributed to the amniotic fluid. Why the process of mummification should take place is a more intricate problem. Ely says that it occurs three times as frequently in twin as in single pregnancies. There are doubtless in intra-uterine life many chemical processes going on of which we are at present ignorant. It is one of those departments in obstetrics which have not been worked out. Pressure of the growing fœtus is a great factor, no doubt, but is far from accounting entirely for this change in the structure. Absorption of the fluids by the other and living tissues doubtless takes place. A chemical influence has been ascribed to the amniotic fluid, the salts which it contains acting upon the dead mass to harden it. The fœtus whose devel-

[1] Read before the Section of Obstetrics and Gynecology of the New York Academy of Medicine, April 25, 1895.

[2] Nouvelle Arch. d'Obstet. et Gynéc., p. 32. 1886.

opment has not been arrested, and whose life has existed up to six months, is simply macerated. Owing to the greater bulk, and the shorter time that life has been extinct, the hardening processes do not go on, and the fœtus is macerated and in most instances compressed, or its development not only arrested but disturbed, resulting in monstrosities.

The causes of the unequal development and death of one fœtus have been much discussed and enveloped in mystery. They are of varying nature, and might in almost every case have been determined, approximately at least, had the investigation of the surrounding circumstances been more carefully carried out. In looking up the literature of these cases one finds a manifest looseness and carelessness in the reports. The causes can be summed up as those occurring, 1, in the mother; 2, in the uterus itself; 3, in placenta, membranes, and cord; 4, in the twins themselves.

1. It would at first appear that if disease or accident should occur to the mother, both fœtuses would suffer. In the few cases reported, in which accident or disease in the mother was brought forward as the cause of the death of one of the twins, the proof that such was the case has been rather shallow. Nevertheless, it is not improbable that trouble in the mother might occasion the death of a fœtus which was weaker and less developed than his brother. Moreover, the demands for growth and nutrition of one having been removed, the other might be the gainer and thus acquire additional strength, and receive a greater impetus, which would enable it to withstand the untoward causes which occasioned the death of the other.

2. The unequal development of the uterus, or its tardy and insufficient development, might certainly act in a detrimental manner to all or a portion of its contents, and one might perish while the other twin survived.

3. Degeneracy of the placenta, apoplexy of the placenta, placenta velamentosa have been alleged as causes in some instances; insufficiency of development of the portion of the placenta belonging to the blighted twin, as well as partial separation of the placenta from the uterus, limiting the nutrient supply. Few cases have reported microscopical examinations. In many instances the changes which have taken place in the placenta may have occurred after the death of the twin, and have been occasioned by it, rather than occasioning it. However, the troubles with the placenta are no doubt potent factors in many cases. Great changes in the cord have been noted by some writers. The membranes have been thinned, the cord has been short, knotted, strictured, or twisted. There have been stricture of the umbilical vein and stenosis of the navel artery. Another cause of death from the cord is the twisting of it about the neck one or more times. Hupp reports a case where the cord was twisted three times around the neck. He, however, attributes the death of the fœtus to the smallness of the umbilical cord, on account of which the nutrition was insufficient. The death of the other twin, occurring several months later, was attributed to the pyogenic material from its fellow. In estimating the effect of the cord on the death of the child, it should be remembered that many of the changes that take place, as those in the placenta, might occur after the death of the twin, and not have been responsible for it.

FIG. 3.—Placenta. *A*, Sac, placenta, and cord of healthy child. *B*, Sac, placenta, and cord of dead fœtus.

4. Conditions in the twins themselves might occasion the death of one or both—anatomical defects, pressure of one fœtus upon the other, and inequality of growth. Peu and Maurieceau are quoted as saying that one fœtus, stronger than the other, takes all the nourishment, and the other perishes by inanition. The power of absorption and assimilation of the one being greater than the other, or, as Professor Eustache poetically expresses it, "they being brotherly rivals," there takes place an intra-uterine struggle for life, which leads to the incomplete development or death of one and the survival and increased growth of the other.

The presentation of these facts in relation to inequality and arrested development of one fœtus, leading to its death by suppression, mummification, compression, ossification, or deformity, has been occasioned by a case in private practice, which led me to investigate and bring together the details of this chapter of obstetrics, interesting more from a physiological stand-point than from its practical bearing, since, almost without exception, it does not complicate either the pregnancy, the delivery, or the subsequent recovery of the patient.

Mrs. T——, primipara, aged thirty-six, began labor March 5, 1894, at two o'clock in the morning, the membranes having ruptured at that time, and the liquor amnii having escaped. With this exception there was nothing abnormal in the labor. The child, which presented in the left anterior occipito iliac position, was delivered at ten o'clock, the placenta following promptly, impressing me only with its great size. It was a female, plump, well formed, and weighed about seven and a half pounds. Upon examining the placenta in it was found a female fœtus (Fig. 2), weighing about a pound and a half, and fourteen and a half inches long. The skull and head were compressed and it was hollowed on one side by the head of the other child, which evidently had fitted into it, as a ball would fit into a cup.

The single placenta was large and full, without any signs of degeneracy (Fig. 3). There were two sacs. The cord of the living child was seventeen inches long, and implanted very nearly in the middle of the placenta. The cord of the dead fœtus was inserted very near the edge and was eleven inches in length. A microscopical examination was made by Dr. Anna W. Williams, who found nothing abnormal either in any portion of the placenta or in the cords.

The case is interesting from two points of view—the advanced age of the fœtus, it being probably very nearly seven months, and the question as to the cause of death. The mother was healthy in every respect, and had met with no accident during her pregnancy. Her recovery was perfectly normal. The death of the child was due either to insufficiency of the placenta, or that portion belonging to it, the cord having been planted too much to one side, or the selfish development of the one child, which crowded the other out, literally driving it to the wall, and crushing its head with its own triumphant growth.

SOME REMARKS ON AMPUTATION AT THE HIP-JOINT, WITH REPORT OF A CASE BY WYETH'S METHOD.

By J. SHELTON HORSLEY, M.D.,

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THE first plan of amputation at the hip-joint, "the most formidable of justifiable surgical procedures," is supposed to have been conceived by Morand, who, with two of his pupils, executed this operation on cadavers in 1738. In 1743 Ravaton devised an operation (practically the same as the modern operations of Lister, Furneaux, Jordan, and others) which he intended performing, but was prevented from doing so by the consulting surgeons.

In 1759 Barbet was awarded a prize by l'Académie Royale de Chirurgie over forty-four competitors for the best essay on hip joint amputations. In this essay he placed on record what is now considered the first hip-joint amputation performed on a living subject. The operation was done by Lacroix, at the Hospital of Orleans, on a boy fourteen years of age, who suffered from gangrene of both lower extremities from eating smutty rye. On the right thigh the gangrenous process had extended higher than on the left, and the line of demarcation had formed at the hip-joint. This limb was almost separated from the trunk by suppuration, when Lacroix completed the separation by dividing with scissors the sciatic nerve and the ligamentum teres. The patient did so well that four days later his left limb was cut off in the upper third of the thigh, which was followed by death in eleven days.

The first successful hip-joint amputation was done in 1772 by Perault, in a case very much like that of Lacroix, in which gangrene following an injury had nearly separated the limb from the body. This surgeon assisted nature by severing the few remaining tissues, and his patient recovered in eighteen months.

The first deliberately planned amputation at the hip-joint through living tissue was done by Mr. Henry Thomson, surgeon to the London Hospital, in 1774. In 1778 Mr. Kerr, of Northampton, also did this operation. Both of these cases were for hip-joint disease, and both resulted fatally. Kerr used an oval incision, the queue terminating externally, and after disarticulating through the outer part of the wound, divided the soft parts on the inner side of the thigh.

Baron Larrey in 1793 was the first to perform a hip-joint amputation in military practice, and from this date to 1809 he did this operation seven times, and one of his cases is supposed to have recovered. This is said to have given it a standing among surgical procedures! The elder Blandin, Larrey's assistant, did the operation three times in 1794 with one recovery. His cases, however, are not very authentic.

The first hip-joint amputation performed in this country was done by Dr. Brashear, at Bardstown, Ky., on a negro, seventeen years of age. He made a circular incision, securing vessels as the operation progressed, then disarticulated by a longitudinal incision on the outer side of the limb. If Blandin's cases of doubtful authenticity be excluded, this is the first successful case on record done through living tissues. In 1812 Brownrigge, a British army surgeon, did the operation successfully.

The three dangers from the operation are hemorrhage, shock, and septicæmia, hemorrhage being the most formidable. The shock is also great. Poppert calls attention to the fact that seventy per cent. of all deaths from hip-joint amputation are from hemorrhage. Therefore, in considering the operation itself, the modes of controlling hemorrhage occupy no unimportant place.

The difficulty in controlling hemorrhage during this operation lies in the facts that the shape of the hip renders the application of an unsupported tourniquet that must be out of the operator's way impossible; that the wound surface is necessarily large, and that the tissues about the hip are very vascular.

The many ways of controlling hemorrhage at the hip-joint may be grouped in four classes:

1. The femoral artery may be ligated or secured before it is divided. This may be done by separate incision, or while fashioning the flaps, as in the external racket incision, or in the transfixion operation of Liston, where it is secured by the assistant's fingers. This is a very old method, having been used by Larrey in 1793, Dr. Brashear in 1806, Sir Astley Cooper in 1824, and later by Roser, Verneuil, and others. Though quite good, it is open to many objections. Ligating the femoral artery in continuity increases the liability to secondary hemorrhage. Securing it does not, of course, interfere with hemorrhage from the branches of the internal iliac artery, which may be quite free.

2. Aortic and abdominal tourniquets, variously shaped, to compress the aorta were used by Pancoast, Lister, Skey, and others. They are very faulty, being only applicable to thin persons, liable to injure the abdominal viscera, and uncertain in controlling hemorrhage.

3. Van Buren, of New York, first suggested compression of the common iliac artery through the rectum, and from this suggestion Davy, of London, devised a lever to be held in place by an assistant during the operation. This is very liable to injure the rectum, and is in the operator's way.

4. The elastic tourniquet, though not perfect, is probably the best method in use. It was employed by Sir Joseph Lister, by Mr. Jordan Loyd, and others. Lister used it to compress the aorta, Loyd to compress the external iliac. Both methods require the use of a special assistant, and are frequently inefficient.

By far the best method now in use is that of retaining the elastic tourniquet in position by the use of skewers. These were used by a number of surgeons, among them Spence, Trendelenburg, Hewson, and Myles. All of these used one steel skewer, to be thrust through the thigh, and a figure-of-eight elastic bandage was carried around it till a flap was made. Then the skewer was removed entirely, or placed in another position, to secure the other flap. Of course, these methods were by no means bloodless, though an improvement.

Trendelenburg's skewer was more complicated than the others. He used in 1876 a steel rod fifteen inches long, one-fourth of an inch wide, and one-eighth of an inch thick, with a movable point attachment. "The rod was pushed through the soft parts, the point removed, and a rubber tube wound round its ends in figure of eight."

It remained, however, for Dr. John S. Wyeth, of New York, to so perfect these methods as to make amputation at the hip-joint practically a bloodless operation. His method is as follows:

"While the member is elevated, or before the Esmarch bandage is removed, the rubber-tubing constriction is applied. The object of this constriction—and it is the chief point in the method—is the absolute occlusion of every vessel at the level of the hip-joint safely above the field of operation." He uses two large skewers or mattress-needles about three-sixteenths of an inch in diameter and ten inches long. One is introduced one inch below and slightly to the inner side of the anterior superior spine of the ilium, "and emerges on a level with and about three inches from the point of entrance" on the outer side of the hip. The second needle is inserted one inch below the level of the crotch, internal to the saphenous opening, and emerges an inch below the tuber ischii. The points of the needles are then shielded with bits of cork to avoid injuring the operator, which Trendelenburg accomplished by a complicated arrangement of a movable point.

The chief and in fact the only objection to this mode of controlling hemorrhage during a hip-joint amputation is the after-oozing. Dr. Wyeth says that this, if excessive, may be completely checked by introducing silkworm gut to be used as secondary sutures, and packing the wound with hot sterilized gauze, which may be removed within forty-eight hours.

As to the methods of operating, which are numerous, Treves gives four classes as covering in principle all these operations:

"**1. Disarticulation Through an External Racket Incision.**"—This is a very popular operation, and in its various modifications has been associated with the names of Ravaton, Malgaigne, Furneaux, Jordan, Lister, Esmarch, and others. Wyeth's method is a modification of this. It consists of a vertical incision from five to seven or more inches long, commencing over the tip of the trochanter major. This is then carried around the inner and back parts of the thigh and joins the end of the vertical incision at the starting-point of the second incision at an obtuse angle. This may be carried out in many ways. Wyeth's method is to make a circular incision through skin and fascia, commencing about six inches below that portion of the tourniquet on the outer part of the thigh. He joins this by a vertical incision from the tourniquet over the trochanter major, and then dissects up the skin to the level of the trochanter minor, where a second circular incision is made to the bone. The attachments of the muscles and the capsular ligament are then divided and the bone disarticulated.

"**2. Disarticulation Through an Anterior Racket Incision.**"—Here the head of the femur is disarticulated through the straight part of the incision, which commences at the middle of Poupart's ligament. This operation is used in conjunction with the first method of controlling hemorrhage, as on account of the nature of the incision no tourniquet can be applied.

"**3. Disarticulation by Antero-posterior Flaps (Transfixion).**"—This method recommended itself to the surgeon before the days of anæsthesia on account of the speed with which it can be executed. It is frequently known as Liston's method. In it the thigh is transfixed by a long knife entering midway between the anterior superior spine of the ilium and the tip of the trochanter major, and is brought out on the inner side of the thigh below the tuber ischii. It is then carried down close to the bone for eight inches, an assistant seizes the femoral artery, and the knife is turned out. The limb is disarticulated and a short posterior flap is cut about on a level with the gluteal fold.

"**4. Guthrie's Operation.**"—In this operation there are antero-posterior flaps of about equal length cut from without in, the incision being begun "a little above the trochanter, carried downward and across the back of the limb, and terminated in front of the tuber ischii. The anterior flap is marked out by a corresponding incision beginning and ending at the same points and crossing the front of the thigh at least five inches below the joint."

As to the relative merits of these operations, the first with its modifications is the best, as the elastic tourniquet can be used with it more successfully. It possesses an advantage over Guthrie's method in not being so readily infected by discharges from the bladder and rectum.

Undoubtedly Wyeth's method, taken as a whole, gives far better results than any other. Ashhurst gives from a table of 633 authentic amputations at the hip-joint a mortality of 64.1 per cent. Wyeth's is 21.4 per cent. from a series of 42 cases by operators of all grades of experience. Davy has a mortality of twenty per cent. out of 10 cases, but, not to mention the serious objection of a limited number, all the cases were operated on by himself. Dr. Wyeth has personally used his method four times, with no mortality. Dr. W. L. Estes reports a mortality of 14.28 per cent. in 7 cases operated on by him after Guthrie's method. He ligated the femoral artery instead of using a tourniquet. The same objections may be urged against his results as against Davy's. Besides, he offers nothing new.

Antisepsis and asepsis would affect Wyeth's mortality rate but very little, as seventy per cent. of the deaths are from hemorrhage and the remaining thirty per cent. is to be divided between shock and septicæmia. So present statistics concerning the mortality of hip-joint amputations can be more justly compared with those of the pre-antiseptic era than in the case of any other operation.

B. F——, aged thirty-six, negro, of Nelson County, Va., was operated on by the writer during August, 1893, and a tumor removed from the inner and lower part of the left thigh, after ligating the femoral artery in Scarpa's triangle. This tumor was very large, being about four and a half inches in diameter. The consultant, Dr. Meeks, and I were uncertain as to diagnosis, as neither of us had examined the patient till a few days before the operation. We were of the opinion that it was a form of aneurism. On its removal the femoral artery was found to be attached to it, and this with the fact that in part of it were many layers of what we supposed was fibrin in some thickness made me believe it an aneurism. A portion of the tumor consisted of small sacs containing bloody fluid. Unfortunately no microscopical examination was made.

Later developments proved, however, that whatever might have been the relation between the tumor and the femoral artery, the growth was evidently malignant in character. About nine months after this operation a small spindle-shaped tumor made its appearance in the upper part of the popliteal space. This grew very rapidly, and soon the thigh was involved and seemed infiltrated, so that by October, 1894, all the thigh except the upper third was involved, and at its largest part measured twenty-six inches in circumference. The pain was very great and the patient was rapidly becoming exhausted. Diagnosis of sarcoma was made and operation decided upon.

On October 17, 1894, I operated, doing Wyeth's hip-joint amputation. I elevated the limb and applied mattress needles and the rubber tourniquet, as above described, without using Esmarch's bandage. The circular incision of skin and fascia was made, then the vertical, the skin dissected up and a second circular made to the bone about opposite the trochanter minor. The attachments of the muscles and the capsular ligament were then divided, and the bone disarticulated, rupturing the ligamentum teres. The vessels were secured and the tourniquet loosened. No more blood was lost than in an amputation through the thigh. The operation lasted about forty-five minutes. Oozing for twenty-four hours was very extensive. The wound was redressed and the drainage-tube removed in thirty-six hours. Most of the wound healed by first intention. A sinus was left, however, by the drainage-tube at the outer portion, which granulated and was not completely healed over till the last of December. When last heard from (April, 1895) the patient was doing well, free from pain, with no signs of the sarcoma recurring.

Microscopical examination of a portion of the involved thigh by Dr. J. S. Davis, of the University of Virginia, proved the growth to be round-celled sarcoma.

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MUMPS VERSUS MEASLES; PERIOD OF INCUBATION AND MODIFYING INFLUENCE ONE UPON THE OTHER.

BY BEVERLEY ROBINSON, M.D.,

NEW YORK.

WE do not observe frequently the arresting influence of one contagious and infectious disease upon another. For this reason, as well as because the times of incubation are accurate, the facts which follow are of interest.

A young man, on the thirteenth day of an attack of mumps, walked through the house, but did not see the children subsequently affected. On the nineteenth day of his disease this young man did see the children. A little girl, six years old, developed mumps ten days after possible exposure, and three days after seeing the young man previously attacked with this disease. On the twelfth day, after lunching with a boy affected with measles, the elder sister, thirteen years of age, of the little girl went to bed with high fever and red blotches on her face. The fever remained high during the three following days. At the expiration of this time the eruption of measles was thoroughly developed.

In this instance, on the twenty-second day after exposure to measles, and the twenty-sixth day after exposure to mumps, and the tenth day after the beginning of measles (eruption and fever) the mumps declared itself. The younger child developed measles on the sixth day after the elder girl went to bed with fever, and twenty days after she (the younger child) developed mumps. The latter child had been out of the house for three days, perfectly well—the beginning of this period being seventeen days after the mumps attacked her. The elder girl began to feel badly one week after exposure to measles. The younger girl went to bed with fever six days after actual exposure. Up to that time she felt perfectly well. The day of actual exposure is considered to be the day the elder girl went to bed with fever, although during four days previous she complained of feeling badly. In both cases the probable period of incubation of measles was ten days. The elder girl was exposed to measles when the eruption was already out. The younger girl was exposed probably, as stated, when the elder girl only felt miserable. The incubation period, in each case, therefore, was not affected in duration by the stage of the disease to which there was exposure. With each girl the fever continued very high for three days, and on the fourth day, when the eruption came out thoroughly, it dropped to 99° F. in each case. It had been over 103½° F. during forty-eight hours in both cases, and disappeared without apparent influence from medication.

In the case of the younger child there was evidently no influence of mumps over measles, as the former disease had entirely disappeared. In the second case the development of the mumps was obviously held in check by the measles until the twenty-sixth day after actual exposure and the thirty-second day after possible exposure.

The two children whose cases I have reported were in the same room throughout the entire time from the first exposure to the end of the disease.

It should be noted that the attack of mumps in the last case was unaccompanied by fever, and although the jaws were much swollen, there was not great pain in swallowing and no apparent secretion from the parotid glands. At first and just before the rubeolar eruption was manifest in this case, there was high fever, not accounted for satisfactorily by other symptoms present. I thought later that the primary high fever was possibly due to the poison of mumps in the system as much as to that of measles.

In the same house, some weeks previous to the time when the first child developed mumps, there had been two cases of mumps of well-marked severity.

In both these instances there was considerable fever for several days, as well as secretion from the parotid glands. Indeed the discharge from the glands lasted for nearly two weeks. In the case of the first child with mumps there was fever during the first few days, but at no time any secretion from the parotid glands into the buccal cavity.

The Therapeutics of Sydenham.—In the *Glasgow Medical Journal* for April, Dr. Dugald Mitchell discusses "The Therapeutics of Sydenham." That great physician sought above all to impress on his contemporaries the fact that more could be left to Nature than they were in the habit of leaving her. Sydenham insisted that the end would be oftener attained "if Nature were not diverted by ignorant men from the straight way that of herself she holdeth." He was wont to say, "The sick man dies of his physician," thus anticipating an epigram of Lord Byron's. The practical part of Sydenham's mind is well shown in the following passage: "I have ever held that any accession whatever to the art of healing, even though it went no farther than the cutting of corns or the curing of toothache, was of far higher value than all the knowledge of fine points and all the pomp of subtle speculations—matters which are as useful to physicians in driving away diseases as music is to masons in laying bricks."

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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COLOR-BLINDNESS IN ASIATICS.

DR. F. B. STEPHENSON, surgeon in the United States Navy, has made an interesting contribution to the subject of color-blindness among Asiatics (*Mittheilungen der Deutsche Gesellschaft*, Tokio, 1894).

Collectors of Chinese and Japanese works of art should find his results of especial importance. Dr. Stephenson's researches included Aleuts, Hawaiians, Japanese, Chinese, Siamese, and Koreans. The method employed was usually Holmgren's color-tests, and in many cases only green and red blindness was looked for.

In the Aleutian islands and at Honolulu no examples of color-blindness were found in either sex, but the number tested (37 and 194 respectively) was not large enough to furnish positive proof that these races were free from this abnormality.

In Japan among 1,200 soldiers 1.58 per cent. were red-blind, and 0.833 per cent. green-blind. Among 373 boys, 1 per cent. were red-blind, among 270 girls 0.4 per cent.

Among 887 school-children 5.4 per cent. were myopic. Among 596 men examined by Dr. Berry, of Kyoto, 5.45 showed defective color-sense.

Among the Japanese as a whole, the percentage of color-defect is less than in Europeans or Americans.

Among 796 Chinese examined in various places, no cases of color-blindness were found, but there was a tendency often seen to mix green and blue. This peculiarity was brought out with much greater emphasis by Dr. Adele M. Fielde, of Swatow, China, who examined 1,200 Chinese of both sexes, using Thomson's wool-tests. Among the 600 men were 19 who were color-blind and among 600 women only 1. The percentage of color-blindness among Chinamen is then about 3 per cent. and does not vary greatly from that in Europeans.

Dr. Fielde, however, found that fully half of those tested mixed up blue and green, and this investigator thinks that many of the race are quite blind to violet colors. The Chinese call the sky green, although they have separate names for green and blue and are aware of the distinctions between these colors.

When we consider that at least 200,000,000 of people consider the sky green, it suggests the possibility that after all we in more civilized lands may be mistaken ourselves and that the conception of a blue sky may be one of the results of a deteriorating culture. The Chinese are very fond of colors and adorn themselves with the brightest hues. Their use of and familiarity with them is certainly greater than that of most other races pretending to some civilization, and their skill in manipulating colors artistically in pottery is admitted.

The Asiatics on the whole appear to have less color-blindness and a better sense for color, barring the green and blue, than the Caucasians.

THE PERENNIAL VALUE OF AN OLD DIPLOMA.

THE question as to what becomes of the old diplomas finds a partial answer in the following advertisement, which appeared a short time ago in a Buffalo daily paper.

"FOR SALE.—A physician's diploma from one of the best colleges in the country. Address *Medical News* office."

A valued correspondent wrote to the address given and received a reply which we now have. From this we learn that the advertiser is a graduate of nearly twenty years' standing from a reputable medical college in this State, a physician in regular practice in a small town not far from Buffalo, a member of his county society, and presumably regarded as a respectable member of the community in which he lives. How his neighbors are deceived, if this is the opinion they hold of him, may be learned from his own words. He writes:

"The diploma in question was issued by the Castleton, Vt., Medical College to my father, who died a few years ago, is on sheepskin and is in first-class condition. The name and date you can have changed if you wish, but where a man travels away from home it is only customary to change the date, and that is not always done.

"My price for the diploma is $25.00.

"Of course it is needless for me to say anything about the ease with which money can be made in the practice of medicine if one goes about it rightly. I would advise anyone following the line to travel and advertise, staying from two to three weeks in a place. One can make from $25 to $100 a week. If you should wish to see me personally you can come to —— and return home in a few hours."

And this from a physician, the son of a physician, a member in good standing of the Genesee (N. Y.) County Medical Society! We should advise this man, who respects his father's name as little as he does the honor of his profession, to follow his own counsel and "travel" away from the company of respectable physicians. His letter, which we have in our possession, is at the disposal of the proper authorities who may wish to learn the fate of this particular diploma.

The City Authorities of Louisville, Ky., have assigned one-fifth of the patients of the City Hospital to the charge of the Southwestern Homœopathic College, which is the fifth college in the city.

MOTES AND BEAMS.

THE American Humane Education Society boasts that,

"1. It has contributed money to aid the anti-vivisection societies in sending out their literature.

"2. It has now a standing offer of $100 for evidence to enable it to convict any man in medical schools or elsewhere of a violation of the laws of Massachusetts by the infliction of cruelty in performing vivisection on any animal."

With this record as a practical and indiscriminate supporter of anti-vivisection and as a spy upon medical teachers, it sends forth to the medical profession and others a series of questions, and requests replies stating whether (1) the respondent believes in vivisection without restrictions; (2) in vivisection restricted by utility; (3) in vivisection without pain; or, (4) in absolute prohibition of vivisection.

Such an attempt to secure evidence is, on the face of it, farcical. Those who answer will mainly be those who have taken some fanatical interest in the subject, and they will naturally give their vote for anti-vivisection. We expect before long to see some alleged ingenuous statement showing that out of five thousand replies, only five have responded in favor of vivisection! The first instinct of most sensible people in seeing such a document will be to ask why is so much fuss made over vivisection, which hardly exists in this country, when animals are being so constantly tortured by hunters, fishermen, pigeon-shooters, and drivers of dock-tailed horses. Let this alleged Humane Society remove the serious cruelties of sports; stop deer-shooting, pigeon-shooting, fox-hunting; then they can address themselves to the relative trivialities of vivisection.

DR. RUSH AND GENERAL WASHINGTON.

IT is, perhaps, fortunate that Congress passed the appropriation for the statue to Dr. Benjamin Rush before the letters of the latter recently published by Mr. Ford in the *Atlantic Monthly* appeared. These letters are full of severe criticisms upon Washington's military and organizing skill, and, according to Mr. Ford, cloak under a pseudo-patriotism a deep personal animus against the Father of our country. Dr. Rush is charged with being at the bottom of the "Conway cabal," which aimed to displace Washington from his command. It is stated, further, that there exists in Philadelphia to-day a biography of Dr. Rush in his own hand-writing, in which frequent comparisons are drawn between himself and Washington, usually to the latter's disadvantage. The publication or sight of this is, however, prohibited. Mr. Ford intimates that Dr. Rush's attitude toward Washington was influenced by small and low motives, and the published letters are asserted to prove this. We believe that the evidence of Rush's whole life should be taken into consideration, however, in judging this matter, and we have no doubt that the memory of Dr. Rush will soon have its defenders.

Dr. Harrison Allen has resigned from the Chair of Anatomy in the University of Pennsylvania.

News of the Week.

Temperance Run Mad.—There is now in Governor Morton's hands, and awaiting his approval or veto, a bill that, should it become a law, will force the pupils in every school under State control, or supported in whole or part by State money, to devote an astoundingly large part of their time to studying the nature and effects of alcoholic liquors, tobacco, opium, hasheesh, chloral, and other baleful sources of reprehensible joys. Four lessons a week on such matters are to be given for at least ten weeks a year in every grade below the second high-school year, and provision is made for excluding from the schools any text-books on hygiene and physiology that do not devote at least a fifth of their pages to instruction of this kind. Regents' and other examinations must include a due proportion of questions about drink and drug evils, and no teacher can be licensed who has not passed a satisfactory examination in regard to his or her knowledge of them. —*New York Times.*

The Committee on Water-supply of the American Public Health Association has issued a call for a convention of bacteriologists of various boards of health to determine upon some system of investigating water-supplies. The meeting is to be held at the New York Academy of Medicine, on June 21st.

The Treatment of the Naval Surgeon.—The injustice done the medical corps of the United States Navy in according to the members inferior rank and pay has long been known as a standing disgrace to the Government, says the *Buffalo Medical and Surgical Journal.* It is only second to that other scandal whereby junior officers are promoted over seniors—a method that deserves the execration of every intelligent American citizen. With a view to correct the former evil, Dr. P. H. Millard, of Minneapolis, introduced the following preamble and resolutions at the late meeting of the American Academy of Medicine in Baltimore, which received the unanimous approval of the Academy:

Whereas, Membership in the medical corps of the navy of the United States from having been, through its high professional attainments, once eagerly sought by graduates of medical colleges, has ceased to be attractive to them, so that it is no longer possible to fill its vacancies; and

Whereas, It is believed that this is due to the inferior rank given to entrants to the corps and their assignment, when at sea, to quarters in the steerage with undergraduates of the Naval Academy and civilian paymaster's clerks, while the young medical officer of the army begins his career a grade higher and in the commissioned officers' mess; and

Whereas, The professional requirements and qualifications, the professional duties and obligations of the medical officers of the army and navy are identical, therefore, be it

Resolved, That the attention of the Senate and House of Representatives of the United States be invited by the American Academy of Medicine to this inequality, and that the naval committees of the two houses be

urged to inaugurate such legislation as shall confer upon the officers of the medical corps of the navy the same status, pay, and emoluments as are now accorded to the medical officers of the army.

Resolved, That this resolution be printed, and copies of it, certified by the President and Secretary of the association, shall be sent to the President of the United States, the Secretary of the Navy, and to every member of the Fifty-fourth Congress.

Similar action was taken by the American Medical Association a day or two later.

Sale of a St. Louis Medical College.—It was generally expected by everybody acquainted with St. Louis college affairs that one or the other of the multitudinous colleges would have to close its doors in the near future. For more than a year it has been rumored that the first college doomed to this fate would be the St. Louis College of Physicians and Surgeons. We have been informed that the board of trustees have at last succeeded in selling the college to Drs. Briggs, Furney, and Morris, who, according to rumor, intend to organize a new faculty.—*Medical Review.*

Another Adirondack Sanitarium.—A new mountain resort for consumptives, named the St. Gabriel's Retreat, will soon be inaugurated under the care of the Sisters of Mercy of Ogdensburg, N. Y. It is to be located at Paul Smith's, in the northern Adirondack region, where a plot of land, one hundred acres in extent, has been secured. A large central hospital with outlying cottages has been planned, in close proximity to pine forests covering thousands of acres. A very large sun-bath portico will be provided. One cottage has been promised by a benevolent lady living at Troy, N. Y.

The Small-pox Epidemic at Hot Springs.—We wish to impress upon the physicians of the country that there is no danger in sending a patient to Hot Springs. The small-pox is over, the editor of this journal was superintendent of the Small-pox Hospital, but was compelled to resign his position for the reason that there were no patients to treat. In all we had 194 cases, with 34 deaths, which is a good showing, especially as we had to contend with a great many syphilitic cases.—*Hot Springs Medical Journal.*

Regulating the Practice of Chiropedy.—The Governor has signed a bill establishing a Board of Examiners in Chiropedy and obliging all practitioners of the art in this State to be examined and registered.

Regulating Veterinary Practice.—The Governor has signed the bill amending the public health law relating to veterinary practice. It provides that hereafter no one shall be admitted to practise veterinary medicine in this State unless licensed and registered by the Regents of the University of the State of New York. A Board of Veterinary Medical Examiners is created. It is to consist of five members, each of whom shall hold office for five years. The State Veterinary Medical Society is to nominate at its annual meetings twice the number of examiners to be appointed that year, and from this list the Regents are to make the appointments. The Regents are given power to remove examiners for misconduct, incapacity, or neglect of duty. It is specifically provided that no person shall practise veterinary medicine "who has ever been convicted of a felony by any court, or whose authority to practise is suspended or revoked by the Regents on recommendation of any State board."

Death of a Physician who Helped to Capture Booth.—Dr. Samuel P. Vonder Smith, one of the oldest and best-known physicians in Essex County, N. J., died May 31st, of consumption, at his home in Bloomfield, aged seventy-four. Dr. Smith became famous from the fact of his being one of the number who captured Wilkes Booth, who assassinated President Lincoln. During the war he enlisted in the Sixth New York Cavalry as surgeon, and later became surgeon of the Sixteenth New York Cavalry. Before the war Dr. Smith was for many years examining surgeon of the New York Police Department, and was at one time examining physician of the Mutual Life Insurance Company of New York. For some time previous to 1872 he had charge of the Indian Department in Arizona. He was in possession of medals awarded for bravery in the war.

Medical Advertisements in the Journal of the American Medical Association.—The American Medical Association has decided that no advertisements of medicinal preparations can hereafter be inserted in the Association journal—after the extirpation of present contracts—unless the exact working formula of the preparation appears in the advertisement.

Association of State Medical Examining Boards.—A permanent national organization of the various State medical examining and licensing boards was effected at Baltimore, on May 9, 1895. Officers were elected for the ensuing year as follows: W. W. Potter, M.D., *President*, Buffalo, N. Y.; J. M. Hayes, M.D., *Vice-President*, Greensboro', N. C.; B. M. Griffith, M.D., *Secretary*, Springfield, Ill. The purposes of the Association are to establish a uniform schedule of requirements for all medical colleges and examining boards, and to assist in perfecting a method for higher medical education.

Sentence of an Illegal Practitioner.—F. W. R. Waring, *alias* Thomas McGahan, was recently sentenced in Yonkers, N. Y., to six months' imprisonment and to pay a fine of $50 for practising medicine illegally. The man was arrested on the complaint of Dr. E. M. Morrell, Secretary of the Westchester County Medical Society. The practice of medicine would appear to have an irresistible attraction for him, for he had already been fined $100 in 1887, and had been sent to Sing Sing in 1889 for the same offence. Quacks who are driven out of New York through the efforts of the New York County Medical Society very often remove to Yonkers and resume their illegal practice there. For this and other reasons it is suggested that a closer union be formed between the New York and the Westchester County Societies, the two oldest county organizations in the State.

The American Laryngological Association will hold its seventeenth annual meeting in Rochester, N. Y., on June 17, 18, and 19, 1895, under the presidency of Dr. John O. Roe.

Society Reports.

ASSOCIATION OF AMERICAN PHYSICIANS.

Tenth Annual Meeting, held at the Army Medical Museum and Library in Washington, D. C., May 30 and 31, 1895.

FIRST DAY, THURSDAY, MAY 30TH.

President's Address.—The meeting was called to order by this address, which was delivered by DR. WILLIAM OSLER. He asked how far had the Association fulfilled the object it had in view at its beginning, and had their aspirations and hopes of 1885 been realized in the advancement of scientific medicine. This was an organization with no code of ethics, no medical politics; no one cares who are the officers and who not. It was not asked from what part of the country a member came, but has he done good work, and still more, if he has anything worth saying and can he say it. Nine volumes of "Transactions" show what has been done. Some of the most noteworthy papers of the past ten years have been brought before this Association, and all the questions of the day had been discussed. The classical work of Fitz and Draper had been brought before them, and in the discussions such subjects as the diagnosis of the diseases of the stomach, of the pancreas, dysentery, infarction, other affections of the bowels, heart disease, sclerosis of the arteries, the mutual relation of renal, arterial, and cardiac changes, anæmia and chlorosis, thrombosis in chlorosis, myxœdema treated with thyroid extract, removal of the ovaries and tubes, subphrenic abscess, acromegaly, and lead-poisoning had all been discussed.

Dr. Osler said: "Our Association has had already a potent influence on the study of pathology and clinical medicine in this country. We need, however, a larger growth of men who are devoting themselves exclusively to these branches. The rapid progress of the medical schools has increased the number of teaching positions in the scientific branches, and there is at present an actual scarcity of thoroughly trained pathologists and bacteriologists to fill them. There is no need to insist upon the necessity of accurate and careful training in the development of workers in these branches. I do not think the profession of this country as yet understands the art of training special clinical physicians, who have taken too much for granted that such men develop readily in the routine of family practice. True, along this path some of the most noted men in our ranks have travelled, but the time has come when able young men should be encouraged to devote themselves to internal medicine as a specialty, content to labor and wait during the first ten or fifteen years of professional life, with pathology as the solid basis of development. Such men will pass to the wards through the laboratories thoroughly equipped to study the many problems of clinical medicine, they will gain the confidence of their professional brethren, and by their accuracy and skill, through them, they will reach the public and a large practice. Such an opportunity and career is within the reach of every physician in any city with a hospital of fifty beds." Dr. Osler then referred to the number of members that had died since the foundation of the Association, and paid a special tribute to the memories of Drs. Alfred Lea Loomis, of New York, and William Cecil Dabney, of the University of Virginia.

Leucomain Poisoning.—This was the subject of a paper by DR. B. K. RACHFORD, of Cincinnati.

DR. F. P. KINNICUTT, of New York, in discussing the paper, asked if he had examined the urine of patients with tetanus. It is very probable that a certain number of cases of tetanus are due to the presence of this substance in the urine. In cases of disordered stomach and severe gastro-intestinal disturbance, the urine might throw some light. He had seen two cases of tetanus, one of which was fatal in twenty-four hours, and at the autopsy the stomach was found to be enormously dilated. The patient had had several previous attacks. In another case, where there was supposed to be cancer present, there was general sepsis, and at the end there was found a gastro-intestinal disturbance.

DR. WILLIAM H. THOMSON, of New York said he was much gratified at hearing this paper. He had long held the view laid down by Dr. Rachford. Many cases of functional neuroses were due more to the action of toxines than to any gastric disease. In many of these forms he has had success with the benzoates of ammonium and sodium. Many of these cases occurred in groups. There were evidences of cumulation, as in uræmia, and the nervous symptom was only seen now and then. In one case which he had there were evidences of heredity.

DR. A. H. SMITH, of New York, asked on what principle he treated these cases with the permanganate of potassium? Was it one of oxidation?

DR. RACHFORD answered that it was one of oxidation, but there were no evidences of it.

DR. FREDERICK C. SHATTUCK, of Boston, asked how long it took to make these tests for xanthin and paraxanthin?

DR. RACHFORD said usually about three weeks.

DR. SHATTUCK asked this because in one case he suspected this kind of leucomain poisoning and the chemist took four weeks to complete his investigation.

DR. J. E. GRAHAM, of Toronto, asked if he had examined the urine shortly before the attacks?

DR. RACHFORD, in conclusion, said he had made examinations of the urine at almost all times, and one week before the attack he failed to find the leucomains. The question of investigation of tetanus had occurred to him, but he had not had a suitable case.

Some Toxicogenic Germs Found in Poisonous Foods was the subject of a joint paper by DRS. VICTOR C. VAUGHAN and GEORGE D. PERKINS, of Ann Arbor, which was read by title by DR. GEORGE DOCK, owing to the absence of the authors.

The Effects of the Gaseous Products of Decomposition upon the Health, and Resistance to Infection of Certain Animals that are Forced to Respire Them.—This was the subject of a paper by DR. A. C. ABBOTT, of Philadelphia, in which he recorded the results of investigations on animals which he subjected to the respiration of vapor vitiated by decomposing substances, sewer air and gas, and other products of decomposition. The animals were put into a bell-jar glass and the air which passed from the outside was forced over the different infusion and decomposing fluids. Last year before this body he had read a paper on the part played by sewer gas or air in causing or disseminating disease. From this paper it was concluded that there was nothing in this air that could be held accountable for causing or spreading disease. In continuing these experiments he presented this paper. Rats and guinea-pigs were confined under bell-glasses, through which was passed continuously, for varying periods, the air from oven substances (meat infusion, sewerage, and urine) in different stages of decay. Some of the animals were subjected to this treatment only, while others were inoculated from time to time during the experiment with cultures of the bacillus of typhoid fever. Of eighteen animals on which the experiments were performed, only two showed any effect; the remaining sixteen presenting nothing that could be attributed to the conditions under which they had lived for from one to five months prior to their being killed. The general condition of these animals during the experiments, as determined by their outward appearance, appetite, and daily fluctuations in weight, was as good as that of other animals kept under the ordinary conditions of the laboratory. In the light of such experiments as are here recorded,

there is but one of two positions to take in regard to the effects of the volatile products of decomposition upon the health and resistance to infection of individuals who respire them, viz., they play no part in either producing diseased conditions or inducing susceptibility to infection, or the indications obtained by such laboratory methods of experimentation as have here been employed are unreliable and not susceptible of general application. We are inclined to accept the former alternative. Ordinarily, in so far as man is concerned, the conditions under which he may find himself may never reach such extremes as those employed in these experiments, as it would hardly seem possible for man to exist under such circumstances. But that he does at times live and perform healthy functions under environments that to most of us would prove highly offensive is an every-day observation among workers in soap factories, glue factories, poudrette establishments, and the like, where the air breathed constantly reeks with the gaseous emanations from putrefying substances. In so far as the sewer gas is concerned, it is, therefore, difficult to conceive that the gaseous emanations from sewers or cess-pools can play a part in the induction of diseases when so highly diluted as they are in the air ordinarily respired by individuals into whose habitations such gases may be admitted.

Renal Affections Following Influenza.—This was the subject of a paper by Dr. C. Baumgarten, of St. Louis. This question is one of great interest. The origin of many cases of nephritis is very obscure. This field is growing narrower by our increased study of its causes. Influenza is one very potent cause, and it is strange that so many authorities are silent on this subject. The literature contains few references to this. It is a more frequent cause of nephritis than the books would have us believe. This complication of the kidney is a frequent, and certainly serious, result of the grip. Besides transient albuminuria, there have been found acute degeneration of the kidney, acute inflammation, both forms of chronic diffuse nephritis, and cases of persistent albuminuria not plainly belonging to one of these groups. He related eight cases. These experiences leave no doubt on his mind that influenza is often the cause of degenerative changes in the kidney. The damage to the kidney does not show itself until the influenza is forgotten. This has been shown in life-insurance-company statistics. During the influenza period and following it he had three and a half per cent. of albuminuria in those examined, and in the non-influenza period he had but one per cent. of cases.

Dr. A. Jacobi, of New York, testified to this complication. He had found it frequently. The diagnosis of this is made easy by the centrifuge. A great many of the cases would have escaped recognition but for this. It is almost impossible with this instrument to miss the diagnosis. The same condition is also found after diphtheria and typhoid fever, and it must be due to the same cause. The toxins of these different diseases give rise to this complication. The microscope should always be used. The periods at which he most frequently found it are between twelve and fourteen and twenty-six. In one of these cases there was alarming hemorrhage; there was albumin, blood, hyaline, granular casts of the thin, fine variety. After all, these cases, contrary to what we find after scarlatina, get well in from two to three weeks or months, and a few become chronic.

Dr. James Tyson, of Philadelphia, said that his observations had been of a different character. He had seen it in persons who had paid him one or two visits, and who had been free from any renal trouble until after an attack of the grip. In other cases of so-called healthy or physiological or cyclic albuminuria he found that after grip this became more serious, and there were casts present.

Dr. Frederick C. Shattuck regretted the absence of Dr. Folsom. Last winter he had seen a number of cases of this kind, and he related a case with nephritis following grip; he had hemorrhages, suppression, and later an enormous amount of albumin. He later became anæmic. Then followed a neuritis, and then death. The autopsy showed gastric complications. Dr. Folsom had reported a case in which there was a large, red, swollen kidney. He thought there was a distinction between the different kinds of kidney complications, for instance after typhoid fever and scarlatina and diphtheria.

Dr. M. H. Fussell, of Philadelphia, had seen two cases which he had not at all suspected, and he thought it showed the importance of examining the urine in all cases in a routine manner.

Dr. A. Jacobi said he wished to correct an impression. He meant the kidney complication not after but during an attack of typhoid fever.

Dr. A. H. Smith, of New York, said this trouble occurred very often, and it is more dangerous in its results than one would suppose.

Dr. Baumgarten, in conclusion, said he was glad to hear his views confirmed by so many competent observers. He always looked for a grip attack when he came across these insidious attacks of renal trouble.

Report on Immunity against Vaccination Conferred upon the Monkey by the Use of the Serum of a Vaccinated Calf and Monkey.—This was a paper by Dr. George M. Sternberg, Surgeon-General, U.S.A., and Dr. Walter Reed, Surgeon, U.S.A. He performed experiments to find out what the effects of blood-serum from a vaccinated calf or from persons with small-pox would have in conferring immunity. The results were rather negative, but there is a short immunity conferred. It takes so much immunized serum to counteract the effect of the vaccine poison that its use is practically impracticable. From one to one hundred to one to fifty is necessary to produce any kind of effect, which would be a very large dose.

Etiology of Idiopathic Hypertrophy of the Heart.—This was a paper by Dr. James T. Whittaker, of Cincinnati. The enlargement is not due to valvular disease or obstruction. The term idiopathic is a misnomer. The cause may be concealed, it may be peripheral, but such terms are too exact. It is not a rare disease. The condition is more frequent than commonly supposed. Many cases are found after a war in a country. The increased size may be noticed by change in the position of the apex. Percussion gives little satisfaction. These hypertrophies may be due to increased resistance in the vascular system, as arterio-sclerosis; to disease of the heart-muscle from infection, degeneration, etc., and to affections of the nervous system. There may be hypertrophy of age, of work, of plethora, of pregnancy, of alcohol, from Bright's disease, from diseases and deformities of the chest, emphysema, kyphosis, myocarditis, syphilis, gout, diabetes, irritation of the vagus, abuse of tobacco, and from excess in venery.

The Transmission of Mitral Diastolic Murmurs.—This was by Dr. J. P. Crozer Griffith, of Philadelphia. He wished to say in advance that all murmurs occurring after the systole and during the diastole were included in this category. The best authorities laid down that the presystolic murmur was heard in a limited area, but he was of the opinion that this murmur was heard far beyond the limits laid down in the books. In giving his opinion he is either saying something that is already well known or he is starting a new point which will bring out discussion. He related several cases and showed plates with the areas marked out, and in some cases the murmur could be heard far beyond its usual limit up into the axilla, but in several it could be heard behind.

Dr. James Tyson, of Philadelphia, said he had seen the first case mentioned and could corroborate what Dr. Griffith said. He related a case himself of a woman, twenty-eight years old, who suffered from lung obstruction, with frothy expectoration. She came to him from

a distance and almost died from the journey. There was an enormous dilatation of the left auricle, as he showed in the specimen. He had recorded a mitral systolic murmur.

DR. JAMES T. WHITTAKER, of Cincinnati, said it was not so much the existence of the murmur but its point of greatest intensity. Many extensive lesions give no murmur, and often a loud murmur will amount to nothing.

DR. CHARLES CARY, of Buffalo, then made some remarks on direct and indirect murmurs and the explanation on physical grounds and the clinical significance of these murmurs.

DR. JOHN H. MUSSER, of Philadelphia, spoke of the work of Dr. Griffith and mentioned a case of his own in comparison. As to what Dr. Whittaker had said, he had seen mitral regurgitations which seemed to be of benefit. In one or more cases the patients had hypertrophy of the heart and many unpleasant symptoms, as headache, nausea, vomiting, and after the regurgitation came the unpleasant symptoms disappeared and the tension was probably relieved. He also spoke of the condition of the valves, and related a case of a sea-captain, fifty-two years old, who had heart trouble from tobacco, evidently a hypertrophy. The man could not believe it was from tobacco, as he had smoked all his life, but he had one or two severe attacks and was frightened into giving up his pipe when he recovered.

DR. MCPHEDRON, of Montreal, thought that the explanation of most authorities as to the cause of this murmur was incorrect. The loudness of the murmur depended on tension of the blood in the pulmonary circulation.

DR. A. H. SMITH, of New York, thought that murmurs that took place in the diastole were also partly systolic in character. The mitral curtains are stiffened and do not coapt, then there is a regurgitation which reaches a certain point. In many of the presystolic murmurs there is no mitral stenosis at all, and even in health there must be a certain amount of regurgitation.

DR. MUSSER repeated what he said, that in hypertrophy after the regurgitation came on the type of the trouble changed and there was often improvement.

DR. CHARLES G. STOCKTON, of Buffalo, asked if it were a diastolic or a presystolic sound. If this is so, then other names hardly apply. If the murmur occurred in the diastole there should be no doubt what it was, and he doubted whether murmurs extended over into the systole, as had been suggested.

DR. GRIFFITH said, in conclusion, that the position of greatest intensity was in the position of the area of mitral stenosis. There was no murmur over the aortic area or down the sternum. As to the varieties and causes of the loudness he could not say, and he thought that there should be no difficulty in distinguishing the varieties of heart murmurs.

Use of the Differential Stethoscope in the Study of Cardiac Murmurs.—This was the subject of a paper by DR. A. H. SMITH, of New York. In using the ordinary stethoscope there is often loss of time in changing the place of examination, and when there is one murmur at the apex and one at the base it is not always easy to differentiate the time of each exactly. The differential stethoscope enables us to hear separately two sounds produced at the same time in different localities when it is desired to know whether the two murmurs occur alternately or synchronously. The ears may be trained with this differential stethoscope to hear the two sounds separately, just as the eyes may be trained to see separate objects. For this purpose the hearing should be good. There are many conditions very evident in which it might be desirable to use this important aid in diagnosis.

DR. J. T. WHITTAKER said this was all very well for those who had perfect hearing in both ears; but, after all, the question of interest was the condition of the heart muscle. This is of prime importance and the differentiation is secondary.

The Cause of the Exaggeration of Sounds Over the Right Upper Chest, both in Health and Disease.—This was a paper by DR. CHARLES CARY, of Buffalo. Attention has been called to the unlike physical cause of the disparity in the sounds elicited from the examination of the two sides of the chest. First, is there any difference on the two sides between the sounds elicited by physical examination of the upper portions of the chest in health, or with the same changes in disease? All authorities describe a marked difference as to the percussion sounds, fremitus, respiratory and physical sounds. Louis in 1843 mentioned this, and later Skoda and Flint. There is a relative broncho-vesicular respiration, so natural to the summit of the chest. The right bronchus gives off a branch to supply the upper lobe immediately at but a short distance from the bifurcation of the trachea; this branch is not represented on the left side in man. By pouring a metallic alloy of low fusion into the trachea of a subject, and then eating the tissues off, he obtained a cast of the trachea and bronchi, and this showed his point most clearly. The right bronchus will in most cases intensify the respirations transmitted to the ear or to the hand of the examiner. Few text-books make mention of this. For this reason exaggerated sounds of voice, breathing, percussion, and fremitus, under like conditions, are to be accounted for by this bronchus, which serves as a much more direct transmitting medium. He had made a great many castings from different animals, and in all this condition holds, or its analogy. In answer to Dr. Tyson he said that all branches below this right one were exactly alike in every respect.

Two Cases of Fat Necrosis.—These were reported by DR. CHARLES G. STOCKTON, of Buffalo. Perhaps the most striking feature of the cases under consideration was the existence in both of a well-marked disseminated fat necrosis, and in neither were there well-marked pancreatic changes. There was a complication of the gall-bladder, in the first case in the shape of gall-stones, and in the second case in that of a fibrosis.

(To be continued.)

Bacteriology of Follicular Tonsillitis.—A paper by Dr. Norris Wolfenden on "The Nature of So-called Follicular Tonsillitis and its Relation to Infectious Disorders" describes recent progress in the study of this disease, with special reference to its bacteriology. The author believes that the time is not far distant when we shall classify the inflammatory condition of the tonsils and throat upon a bacteriological and not a clinical basis. He describes briefly four varieties, omitting all cases in which the bacillus of diphtheria plays a part, under the head of staphylococcal, streptococcal, pneumococcal, and Roux and Yersin coccal angina. In all of these forms there may be throat symptoms which resemble diphtheria. "Follicular" tonsillitis is not really follicular at all; it is an acute cryptic infection due to one of these forms of cocci. Its contagiousness appears established in some cases, but is generally not very easily traced. It never appears to attack large masses of people simultaneously, although a number of persons living under the same roof or in similar conditions are frequently affected at the same time, suggesting insanitary surroundings as a common cause. The pathological enlargements of the tonsils, in which a chronic process of catarrh is present in the crypts, form not only the best culture media for a large number of microorganisms, but give their products an opportunity to invade the system. Clinical appearances alone often allow so little ground for diagnosis of simple tonsillitis from diphtheria that in the absence of bacteriological diagnosis it is wise to isolate such patients from the first. —*The Boston Medical and Surgical Journal.*

AMERICAN GYNECOLOGICAL SOCIETY.

Twentieth Annual Meeting, held in Baltimore, May 28, 29, and 30, 1895.

MATTHEW D. MANN, M.D., OF BUFFALO, PRESIDENT.

FIRST DAY, TUESDAY, MAY 28TH.

(Continued from page 694.)

The Present Treatment of Uterine Displacement.—DR. PAUL F. MUNDÉ, of New York, read a paper on this subject. He was of the opinion that anteflexion produced no symptoms unless there was some downward displacement, and he never used intra-vaginal pessaries for anteflexion alone. One might ask how was it that such acute observers as Dr. Thomas and others had been misled to attribute the relief obtained in anteflexion to the use of pessaries? The answer was, in the light of our present knowledge, that the symptoms were due to such concomitant conditions as inflammations, enlargement of the uterus, etc., and the relief of these by certain of the measures adopted. Dr. Mundé had used supports much more frequently in posterior displacement than in anterior, and yet he did not expect to cure posterior displacement by pessaries. He had not been able to increase his percentage of cures above that mentioned in his paper in 1881, five per cent. He used but one pessary in anteflexion and prolapsus, namely, Gehrung's.

Dr. Mundé had employed Alexander's method of shortening the round ligaments in seventy-seven cases, having been the first to perform it in this country, in 1884, and in a majority the uterus had remained in good condition. He thought that if the ligaments were not found the fault lay with the operator, but it was not the operator's fault if they were thin and broken. He said that he was as much in favor of the operation as ever, although it was attended by certain difficulties, and in some instances the ligaments were liable to break. The second best operative procedure was to shorten the round ligaments within the abdomen. This could be done in the way practised by Mann, Edebohls, or Polk. But he did not approve of opening the abdomen for the purpose alone of shortening the round ligaments, for ventral fixation, nor of operating through the vagina for the same purpose. He had performed ventral fixation about seven times after opening the abdomen for some other purpose, and with good results, but one patient died of heart failure, and another, five months after conceiving, had aborted because the uterus had refused to rise.

The ideal operation for prolapsus had yet to be devised. Plastic operation combined with Alexander's kept the uterus in place for a time, but prolapsus was likely to occur in the event of pregnancy. Where the woman was no longer in a condition to become pregnant he thought the method of the younger Freund, of narrowing the vagina by circular stitches, would prove valuable. He also regarded the procedure of opening the posterior cul-de-sac, freeing the uterine adhesions, and doing Alexander's operation, as one of the recent advancements when employed in suitable cases.

My Experience with Ventro-fixation and Alexander's Operation.—DR. A. LAPTHORNE SMITH, of Montreal, read the paper. He had performed Alexander's operation twenty-one times and ventro-fixation twenty-eight times in the past five years. As he had seen a great many more cases of retroflexion during the same time it showed that he did not think operative interference so frequently called for. The following points with regard to holding the uterus forward were considered in detail: 1, Its effectiveness in accomplishing the object desired; 2, in accomplishing it the smallest possible risk should be attained; 3, in effecting it with the greatest possible ease to the operator. The pessary had many objections: 1, If the ovaries and tubes were bound down it could not be borne; 2, even if there were no inflammation or adhesions, and the uterus and appendages were freely movable, yet the vaginal outlet was generally too large to prevent the pessary from dropping out, and a larger and larger one had to be used; 3, the patient had to come repeatedly to have it renewed; 4, it interfered more or less with sexual intercourse. We must admit, however, that a few cases of retroversion were cured after a few months' use of the instrument. All operators were now agreed that no matter how much one closed the vagina with plastic operations, the uterus would still come down to the vulva. As to removal of the uterus and appendages, it must be remembered that there were other organs which could descend. In comparing ventro-fixation with Alexander's operation, the latter failed in cases where the uterus and appendages were adherent. Indeed, these organs sometimes seemed movable when in fact they were more or less adherent, which would account for some failures with the Alexander operation where they were not expected. Nor was the Alexander operation without risk. A number of patients had come to him in whom it had been followed by a single or double hernia. He had come across two or three cases in which the ligaments had broken on traction, and he had been compelled to finish the operation by opening the abdomen. It should be remembered that in retroversion the round ligaments had not contracted in months or years, and were in a more or less state of fatty degeneration, and hence their liability to give way in Alexander's operation. In doing ventro-fixation the operator was given an opportunity to examine the appendages, break up adhesions, etc., and during the same *séance* he could, if necessary, perform plastic operations on the vaginal walls. The objection that the uterus was a movable organ and should not be put into an immovable position hardly applied to ventro-fixation, for he had found on opening the abdomen a year later that the attachment had become stretched into a pedicle no larger than a lead-pencil, which permitted of sufficiently free movements. An inch or two-inch incision was as a rule sufficiently long. The author preferred to insert two or three silkworm ligatures, which were left in for one month.

Alexander's Operation.—DR. CLEMENT CLEVELAND, of New York, read the third paper, on "The Treatment of Uterine Displacement." He considered Alexander's operation one of the most beneficent ever devised. One was struck by the not remarkable fact that those who arrayed themselves against it had had no experience, or very little experience, with it, and whose work, for that reason, had probably not been satisfactory. The operation was not an easy one for beginners. Bad results might be said to come from first efforts. He himself had not felt at home with the operation until he had performed it about fifteen times; even now he never felt assured beforehand that he would be able to find the ligaments.

We heard that the operation was dangerous, but statistics spoke differently. There must be two round ligaments, and where they were not found it was the fault of the operator. The fibres might be delicate and fragile, but one who knew how to handle them rarely broke one. They had strength enough to support the uterus to which they were attached. It had been said that shortening them might cause abortion, but he had never seen that accident, nor had he seen the displacement recur after pregnancy. It was his custom, however, to caution his patients, saying that it was unwise to become pregnant within one year after operation, and yet he would not advise abortion. It had also been claimed that invalidism was likely to follow the operation, but such had not been the result. Among all his cases he had seen hernia but twice, and they were among his first cases where the sutures had caused suppuration. If the operation was properly done the uterus was placed in the correct position anatomically, physiologically, and therapeutically. As compared with other operations Dr. Cleveland now

preferred it to ventral fixation, which he had performed many times. Similar objections applied to ventral fixation and antero-abdominal shortening of the round ligaments. The latter, antero-abdominal shortening of the round ligaments, was also likely to fail in case the ligaments had been torn from the pubic spine. In doing Alexander's operation the shorter incision should be used. The ligaments had to be drawn out nearly four inches in nearly every case. Dr. Cleveland then described the details of the operation and his particular method of anchoring the ligaments by using their extremities as sutures. Silkworm-gut was preferred. The same antiseptic precautions were taken as in doing laparotomy.

Dr. Davenport, of Boston, opened the discussion. He thought an operation was necessary only in a minority of the cases of backward displacement of the uterus. Indeed, retroflexion of the uterus was often only temporary in character, and many other women had such displacement for years without any symptom until some special strain or cause gave rise to them. The cases of backward displacement with adhesions did not, of course, come into discussion with Alexander's operation. He must differ with Dr. Smith if the latter preferred ventral fixation to Alexander's operation in simple retroversion. He did not consider Alexander's operation itself perfect. It did not relieve symptoms always, though the uterus was freely movable before operation. The patient frequently continued to complain of pelvic pains and other discomforts. He believed it gave rise to hernia more frequently than was believed, and a strong argument against it was the feeling of numbness and pain at the seat of incision which, in his experience, had not been an infrequent sequel. The round ligaments were not strong enough to retain the uterus in place in certain abnormal conditions of the cervix, of the utero-sacro ligaments, etc., and their own weakness was not the immediate cause of the displacement.

Dr. Ely Van de Warker, of Syracuse, said humorously that since the prevailing surgical spirit both here and abroad might lead to the performance of hysterectomy as the only method of treating retroversion of the uterus, he thought it might be well for some of the old fellows like himself to say something on the other side before it was too late. It had been about twenty years since he had read a paper in which he had brought forward the treatment of flexion of the uterus by the intra-uterine stem, and at no time in the history of the Society had there been an instance in which a young man, or an old one, for that matter, had been so thoroughly sat upon ; but time, of course, brought its own revenge, and one of the gentlemen who then most strongly condemned him had since brought out an edition of his book which fairly bristled with intra-uterine stems.

Dr. Van de Warker thought this instrument, when properly constructed and used in suitable cases, was of great value. Regarding Alexander's operation, he had had a good deal of experience and was not in favor of it. He thought the operation was not scientific. Assuming that it was the function of these ligaments to hold the uterus up, he maintained that the organ had become displaced through some pathological condition, and that it was unscientific to treat the symptom, prolapsus, instead of treating the etiological factor. At any rate there was no proof that the round ligaments held the uterus in the normal position of anteversion. We had to remember that the round ligaments were bands of connective tissue, which underwent enormous elongation and then a certain amount of shortening. By Alexander's operation it was proposed to bring the uterus, which had been retroverted by other causes, into the normal position of anteversion by shortening the round ligaments, and this seemed to him unreasonable. He had done the operation about thirty times, and had not been at all satisfied with the results. One could not tell but what adhesions existed which would make the operation ineffectual unless the uterus was held forward with pessaries.

Dr. H. C. Coe, of New York, thought the last speaker's argument was illogical and founded upon false premises. It was never the intention of the operation to sustain the uterus as a dead weight, nor was that the normal function of the round ligaments. They were not intended to suspend the uterus, but simply to keep it from falling backward, and in shortening them the purpose was not to hold the organ up as a dead weight or to overcome prolapsus. Dr. Coe had observed that the pain present in some cases was due to prolapsus of the ovaries, and lifting these with pessaries gave relief when an operation alone did not. He thought there was no comparison between Alexander's operation and ventro-fixation, as the latter was to be undertaken only after the abdomen had been opened.

Dr. Thomas Addis Emmet, of New York, said it had been his good fortune to see Alexander operate a number of times soon after he had brought the method forward, and had been allowed to introduce his finger into the vagina while the uterus was being drawn forward ; consequently he had come to understand fully the way in which the operation acted, and as a result he had never performed it. The reason was that he believed the cause of the trouble was the degree of prolapsus, not the version. The prolapsus straightened out the vessels, which then became enlarged and engorged. It was the amount of congestion or blood engorgement accompanying the prolapsus which caused the trouble, not the backward displacement. He believed that relief came in the use of pessaries, etc., from lifting the uterus and overcoming the prolapsus, and not in overcoming the retroversion.

Dr. William M. Polk, of New York, said he was sorry to find himself again on the opposite side of the fence from Dr. Emmet. One could not take issue with him on his explanation of the condition which existed, but he could with regard to the actual results of the operation. Alexander's operation had been with us since 1883. It had been performed a great number of times in this country and Europe, and all gave similar testimony to its efficacy in the relief of this condition. In comparing it with ventro-fixation, Dr. Polk said that to limit Alexander's operation to cases in which the uterus and adnexa were freely movable was not necessary, for the reason that recent experience had shown that in other classes of cases it was entirely feasible and safe when preceded by posterior vaginal incision and breaking up of adhesions. Yet ventro-fixation in its proper place was undoubtedly an excellent procedure.

Dr. Baldy, of Philadelphia, dwelt upon the importance of the treatment of inflammatory and other conditions of the uterus complicating retroversion calling for one of the operations under discussion, and also stated in what cases he would resort to hysterectomy.

Dr. George M. Edebohls, of New York, referred to a paper he had read before the Society two years ago relating eleven cases of prolapsus of the uterus and vagina treated by certain plastic operations, and stated that such cases were not extremely rare, and his later experience had confirmed the views then expressed. The statement had been made that when the round ligaments could not be found it was the fault of the operator. He himself had held that view until lately. Two cases had come under his notice in which he was unable to find the round ligaments in their usual position and therefore opened the abdomen. The ligaments were then found from the fundus uteri to the internal ring, but immediately upon emerging from the latter they spread out in a backward and downward direction instead of passing down toward the spine of the pubes.

The author made some closing remarks.

(To be continued.)

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held at the New York Academy of Medicine, New York, May 28, 29, and 30, 1895.

(Continued from page 693.)

SECOND DAY, WEDNESDAY, MAY 29TH.

Treatment of Prostatic Hypertrophy.—DR. L. S. PILCHER continued the discussion of the subject begun yesterday. He said that since 1893 experience of many surgeons had shown that rapid degeneration and removal of prostatic overgrowth in aged men took place in some cases, and coincident relief to the obstructed flow of urine, after removal of the testicles, but that in certain cases this operation itself precipitated death. It remains, therefore, for the future to accurately determine the relative value and danger of this operation for obstructive prostatic enlargement, as compared with other measures that may be employed. The speaker said he used the term obstructive prostatic enlargement intentionally, for (1) it is only such cases of hypertrophy of the prostate as cause obstruction to the flow of urine that become the subjects of attention, and (2), the enlargement may be caused by widely varying pathological conditions. In the enlargement glandular elements may predominate and adenoma is present; if muscle-fibre, myoma; if fibrous elements, fibroma exists; if epithelial elements prevail, epithelioma is developing. Although muscular, glandular, and fibrous elements do not enter into every case, yet the proportion varies in different ones. Thus the hypertrophy may be in one case dense, partaking of fibroma; or it may be soft, growing rapidly, very vascular, arising from the secreting elements; now the obstruction may be due to accidental swelling, owing to degenerative, congestive, or inflammatory processes.

The relation of castration to these various conditions must be very different. The sudden obstruction due to congestion would not call for castration, nor would malignant and tuberculous enlargement. In cases in which the adenomatous elements prevail analogy suggests, as observed upon the female breast in pregnancy, the close sympathetic relation between this overgrowth of the prostate and the testicles and perhaps account for their shrinkage on their removal. If this be the correct theory then it would follow that it is in the class of prostatic hypertrophies in which the glandular substance predominates that benefit is obtained, and may also explain why in other cases the operation proves useless, as when the enlargement is due to fibrous overgrowth which had in its growth compressed and destroyed much of the normal glandular tissue. As possibly exemplifying this hypothesis the reader narrated a case. Patient was seventy-four years of age, with symptoms of prostatic obstruction for twenty years. There were the usual aggravated symptoms present. Double castration was done on January 19, 1895. At the operation, under anæsthesia, attempts to pass catheters failed. On the sixth day after the operation catheters were passed with ease and thirty-two ounces of urine removed. After this catheterism was easily maintained for the first time for some months. Now he is able to pass spontaneously about one ounce of urine at a time and gradual improvement is taking place. But there has been no apparent diminution in the size of the prostate.

A second case narrated was one of double chronic orchitis in a patient aged sixty-seven. Had had double hydrocele when a young man; neuralgia for fourteen years. Hydrocele cured after tapping. Recent gradual enlargement of the testicles had occurred, each to the size of a hen's egg, not tender, but hard. Under chloroform both testicles were removed. Violent delirium set in as the effects of anæthesia wore off, and continued thereafter. Temperature and pulse rose, respectively, to 102.60° F. and 145 per minute on the sixth day. The amount of urine secreted was normal, but it became albuminous on the fourth day, to twenty-five per cent., with blood and hyaline casts. Primary healing of the wound took place, but the patient died the sixth day from exhaustion.

The speaker said the objections to the operation were principally: 1. Sentimental—not difficult to overcome when once positive assurance of its value can be given; 2. Dangers inherent in the operation are only those of subsequent uræmia. Fauld's cases were referred to, three out of six dying of uræmia shortly after operation, and the case of Buchler.

In the general discussion which followed, DR. PIERSON said that we know too little, as yet, to form just conclusions regarding the value of the operation, but that we ought to make the best use of what we do know, and he thought we had sufficient knowledge to warrant us in undertaking the operation whenever opportunity presented. He had had three cases. One in a man seventy-five years of age, with very aggravated symptoms, including bleeding. After double castration, catheters were left in to drain the urine. There was good progress for six days, when bad symptoms supervened. Opening up of the scrotal wound disclosed gangrene. The patient died on the eleventh day after the operation. The gangrene was probably, he thought, due to infection by the catheter through an unsound urethra. The prostate was found, on post-mortem, to have shrunken. It was a case in which there had been no possibility of mistake in diagnosis.

All his cases were typical hospital ones. Another case of his, with very aggravated symptoms, had been promptly relieved by the operation, the urine, for the first time in several years, being voided without difficulty a few days subsequent to the operation.

Another speaker suggested leaving the wound open sufficiently to allow irrigation, to avoid such complications as in the first case narrated by the previous speaker.

DR. ALEXANDER, of New York, said that because the operation was so easily performed, he feared it was liable to be entered upon with too little consideration of possible consequences. He said that he was unable to credit the claim that hypertrophied tissue could so quickly degenerate and be absorbed as the cases reported seemed to indicate. The results were more likely due, in many cases, to the skilful services of a competent surgeon in other measures, such as are ordinarily employed, and which are often quickly followed by more or less relief. The cases reported do not altogether satisfy him as to their having been reported entirely without bias. The operation has not yet passed the stage of physiological experimentation, in the speaker's opinion.

Another speaker related a case in which most careful and detailed record was kept by the patient as well as by the surgeons both before and after the operation. The results in this case he would not attempt to explain, but they were too evident not to have impressed him very positively as to the benefits of the operation, in some cases at least. However, since the castration the patient had been subject to sudden flushings and heat and sweating, which he could not account for except as in some way the result of the removal of the testicles. Atropine and other remedies failed to relieve this symptom.

Operative Treatment of Cancer.—DR. F. H. GARRISH, of Portland, Me., opened the discussion in a paper on the "Relation of the Lymphatic System to the Various Regions Most Liable to be Affected by Cancer." The speaker said that he did not imagine that anybody expected him to throw any new light on the subject. Probably the lymphatic system is the least understood of any branch of anatomy; first, because of the imperfect manner of its treatment in textbooks; second, the extreme difficulty of conducting

original investigations. Authors differ greatly, none are probably altogether correct. These faults may arise partly from the actual lack of uniformity of lymphatic distribution. This is probably less regular than that of the veins, notoriously irregular. What is said, therefore, cannot be said dogmatically. The importance of definite knowledge on the subject cannot be exaggerated, as the surgeon who operates for cancer well knows.

Cases have shown that, however early cancer is discovered and removed, involvement of the nearest lymphatic glands had already occurred. It is urgently necessary to know in what direction to look for such involvements, and also, equally, to know where to search for peripheral sources of infection when secondary disease is found in the nodes. The usual relations between each group of those glands which are accessible to operative procedure and the regions from which it derives its supply of lymphatics, the reader demonstrated by drawings on the blackboard. Only about one-fourth of the lymphatic nodes of the body are accessible to operation, and it is improbable that it will ever be regarded as justifiable to attempt removal of any great number of those located in the great cavities. The simple thought of removing the two hundred mesenteric glands, for instance, is appalling. If, then, malignant disease has attacked such region operative measures will not be sanctioned. The reader separated into two groups, by authors compressed in one, a number of nodes. The parotid and internal maxillary, the one situated upon and in the parotid, the other in the side of the pharynx. The lymph vessels from the innermost portions of the breast converge to the internal mammary nodes; a portion of those of the superficial parts of the lateral abdominal walls drift toward the source of the lumbar and ilio-lumbar arteries and end in the lateral lumbar glands; the rectum sends its lymph to the meso-rectal nodes, thence to the sacral, and finally to the lumbar; the uterine absorbents terminate in two sets of glands—from the upper part of the corpus, emptying into the lumbar, accompanied by the ovarian and tubal, those from the lower part of the body and cervix, with upper two-thirds of the vagina, into the internal iliac.

The speaker said that from his drawings, if correct, the efferents of every set of nodes can be determined in an instant, and the glands to which the lymph vessels of any region are tributary can be determined at a glance.

Operative Treatment of Cancer of the Male Genitals.—This paper was by DR. HUNTER MCGUIRE, of Richmond, Va. The speaker said that about one case of cancer of the penis occurred in one hundred cases of cancer, and that the disease usually appears after middle life. Favorite points of attack are the inner surface of the prepuce or glans, more commonly the latter. It begins in a small vesicle or node, which breaks down and leaves an ulcer with dense edges. Irritation causes the ulcer to spread rapidly. The tunica albigenia offers some resistance, but this overcome, the disease spreads to the body of the penis and extends to the lymphatic glands of the groin, shown first near the saphenous opening. Of unoperated cases the average duration is about twenty-two months. The disease is usually epitheliomatous. It demands prompt measures. Syphilis is the only disease likely to be confounded with it. The ulcer covered with dead epithelium and extensive induration will distinguish it usually, if not the microscope will. Phimosis often exists, often causative, and should be split. In early operations prognosis is good, after delay, bad. Very early excision of the ulcer may be sufficient, but the incision should be well outside the indurated base, not leaving an atom of it. If situation preclude the use of the knife, caustics should be employed. Here, too, it is better to remove too much rather than not enough tissue. If extension has progressed too far for simple excision, amputation of the penis should be performed. Of the free portion of the penis this is commonly done by a circular sweep of the knife, severing the member above the point of disease. The urethra is then slit up and sutured to the neighboring skin. The chief objection to this is that the urethra contracts, the urine dribbles, and the cure by granulation is slow. The operation is better done after suitable disinfection of parts contiguous, as follows: The surgeon stands on the right side, a rubber band tied about the penis at the root to control hemorrhage. The knife is passed through the skin at the junction of the corpus spongiosum with corpa cavernosa on one side, brought up the side, over the dorsum and to the corresponding point on the opposite side. This flap should be convex toward the glans, like a flap in leg amputation. Beginning at one end of this flap the knife now transfixes the penis between the corpa cavernosa and corpus spongiosum, coming out at the opposite end of the anterior flap, then carried between them for three-fourths of an inch, then downward and backward to form a posterior flap. This contains the urethra, which should be dissected out of the flap. The corpa cavernosa is now split vertically as far back as the point of transfixion, and the bleeding points are found and tied with fine carbolized silk ligatures with the ends cut close. At least four vessels will require ligatures: the two dorsal arteries and the arteries of the corpa cavernosa. The rubber band is now removed and other bleeding points secured. A small opening is now made in the centre of the anterior skin of flap and the urethra is drawn into this opening, slit up, and stitched in place; at least four (carbolized silk) sutures will be required to make it secure. The anterior and posterior flaps are now joined with sutures of silk or horsehair.

By this operation a covering of skin is secured for the end of the organ, and repair is more rapid than by granulation, which is necessary in the old operation. The urine should be drawn by catheter for several days. A soft catheter should be kept in, unless it causes too much irritation of the bladder or urethra. The stump is dressed with iodoform gauze packed with cotton-wool, and the whole kept in place by proper bandage.

There is tendency to contraction of the orifice of the urethra, and in the four cases which the author has had the patients were instructed to keep it open by passing a short graduated metal sound occasionally. The operation is frequently performed with the galvanic cautery, or by the écraseur, and the urethra treated as suggested by Teale. Those who dread loss of blood are prone to resort to these methods, but primary and secondary hemorrhage have followed both of these operations, and sepsis is more likely to occur than when the knife is used.

It has been urged by some that amputation is not radical enough, but the author believes it is in many cases. The cancer is ordinarily epitheliomatous, like the usual cancer of the uterus and other organs. Of course conditions may indicate more radical procedures. When the disease extends as far back as the scrotum the plan of Mr. Pearce is probably the best to follow.

Medullary cancer of the penis is rare in men, but frequently occurs in boys, spontaneously or from injury. It spreads rapidly. No matter how early and complete the operation it is almost certain to recur.

Cancer of the Scrotum.—Cancer of the scrotum is common in chimney-sweepers, in operatives engaged in manufacturing coal-tar and paraffin. Irritants which penetrate the skin deeply are supposed to be the exciting agency, warts and nodules being first produced, which develop finally into cancer. The type is usually that of large or polymorphous cells. The operation must be a radical one.

Testicle.—Of the testicle, the medullary form is most common, scirrhus rare. Other forms occasionally are seen. The susceptible age is from twenty to forty. It is almost unknown in the very young and rare after

sixty. Contusion is a cause in one-third of the cases, its average duration two years.

Important diagnostic points are: 1. Continual progressing, solid enlargement without inflammation. 2. Unequal consistence in different parts. 3. Absence of transparency. 4. Tendency of scrotal veins to enlarge and scrotal tissue to become adherent. 5. Increasing aches and pain. 6. In doubt, antiseptic tapping or exploratory incisions, preferably the latter. 7. Enlargement of the cord and of the lumbar glands.

Operation—Castration.—*Results:* Danger to life in castration for cancer is slight. Permanent cures are uncertain. Of many reported cases it is unknown whether they were cancer or sarcoma. Curling reports four cases. In twelve cases by Winewater only one escaped recurrence. Kocher reports six cases, all alive after periods varying from one to ten years. In all of these cases microscopical examinations were made. When the disease has progressed so that secondary masses can be felt in the iliac fossa, or lumbar region, or if cachexia is marked, the operation should not be performed.

Cancer of the Prostate.—Cancer of the prostate, although rare, is probably more common than statistics indicate, owing to its being often mistaken for hypertrophy. There are two varieties, the hard and the soft, with very dissimilar clinical courses. The former produces obstruction to flow of urine, desire to void urine, excruciating pain, and presence of blood; while the soft encephaloid variety causes very little early vesical symptoms, but is characterized by rectal pain and tenesmus, and difficulty in defecation. The former variety is the more common; it obstructs and deflects the hard catheter; the soft cancer extends directly backward toward the rectum without affecting the bladder.

Diagnosis is not easy. Severe pain, steady growth of the tumor, characterized by stony hardness in the scirrhous; in the encephaloid, a semielastic fluctuating feel, with rectal hemorrhage, and the cachexia. Microscopical examination of an obtainable fragment, of course, will settle the question. The symptoms which should cause suspicion of hard cancer, as distinguished from prostatic hypertrophy, are: 1. Frequency and difficulty of voiding urine out of proportion to the enlargement. 2. It is often difficult or impossible to pass a steel sound through the warped urethra into the bladder. 3. Continuous pain in the pelvis, often extending to the thighs and legs. 4. Blood often precedes or follows the stream of urine. Prostate enlarged, hard as a stone; the finger in the rectum can often detect induration of one or both vesiculæ seminales.

It is not so easy to distinguish the soft variety. Its presence is usually not suspected until it has progressed very far. The first symptoms are rectal. Frequent urination, tenesmus, blood, and mucus; secondary, frequent micturition, incontinence, and retention. Rectal examination shows a large, soft, elastic tumor, springing from the prostate, pushing backward into the rectum, eventually breaking into it, and filling the pelvis. Treatment consists in alleviating symptoms, unloading the bladder and rectum, etc. The formation of an artificial anus may be required. No radical operation for permanent cure has yet been devised. The prostate and base of the bladder have been removed for cancer of the prostate, but the results are not encouraging.

Eighty or ninety per cent. of cases confirmed by autopsies showed other organs beside the prostate implicated. Any operation to be of value must be early and radical.

Cancer of the Lips, Tongue, Floor of the Mouth, and Pharynx was the title of a paper by Dr. P. S. Conner, of Cincinnati, O. What are the end-results with present methods of operating? what changes, if any, can be advantageously made? the speaker said, were the questions under discussion. Leaving out of consideration other causes of death than the disease itself, in what proportion of cases is recurrence prevented? Wherever situated in the beginning cancer is local. Reappearance after early removal proves imperfect removal.

Cancer of the lip is easily eradicated, while the disease is confined to its free border and to limited infiltration of the underlying tissues, by the V-shaped excision. In the majority of cases this condition does not exist at the time of operation, but the glands under the jaw are implicated. Doubtless at times grandular enlargement is due to irritation, and will subside after the removal of the diseased source, but this is exceptional. Sixty or seventy per cent. of failures to effect cure are due to failure to extirpate affected glands. All enlarged glands should therefore be removed. Thorough exploration for any such should be made. This does not add greatly to the gravity of the operation.

Cancer of the tongue is seen in about one-tenth of all cases of cancer. In a great majority of cases observed glandular enlargement has been present. It affects the glands and the jaw, those along the anterior edge of the sterno-mastoid muscle and those over the carotid sheath, one set or all, according to the situation, age, and other circumstances of the disease. The end-result of operations has been far from satisfactory. Ten per cent. in recent years have died promptly from the operation. Whitehead's death-rate is only 4.5 per cent. Percentage of secondary growths has been from seventy-five to ninety-five per cent. When the tongue has been entirely removed recurrence in the stump has been rare, but occurs in affected glands. Free and early excision, therefore, is very necessary to a cure. It is far better that now and then a syphilitic or tuberculous tongue should be unnecessarily operated on than that cancer should be allowed to extend its area.

The best method of operating is that which permits the readiest and most complete removal of the disease with the least risk of life. Each case has to be operated upon according to its circumstances. When the disease has existed but a short time and located on the free border of the tongue ablation by the knife or scissors should be made. Hemorrhage is slight and healing rapid, the value of the organ but little impaired. When the disease is more extensive, even when so extensive as to require the removal of the whole tongue, Whitehead's operation is a good one. Any operation through the mouth, unless very early and limited, must be supplemented by exploratory incision of the submaxillary region and removal of discovered glands. Even the affected intervening ducts may be left. Very often, if not generally, such intermediate disease exists. Better results will require wider and more thorough explorations than are at present practised. It is through the neck, the floor of the mouth, that we must reach the tongue. Along such routes only is it practicable to arrive at all at the affected tissue.

Primary cancer of the pharynx is rare. Operation for secondary growths in it is for the most part useless, if not injurious. Primary, and confined to the velum, it can be readily removed by knife or scissors. If early and widely done recurrence may not take place. Cancer of the tonsil penetrates the deep tissues so rapidly as to render operations almost wholly useless. Fortunately it is rare.

The session was adjourned until Thursday.

Third Day, Thursday, May 30th.

Election of Officers.—The following officers were elected for the ensuing year: *President*, Dr. L. McLane Tiffany, of Baltimore; *Vice-Presidents*, Christian Fenger, M.D., of Chicago, W. H. Carmalt, M.D., of New Haven; *Secretary*, M. H. Richardson, M.D., of Boston; *Treasurer*, N. P. Danbridge, M.D., of Cincinnati; *Recorder*, De F. Willard, of Philadelphia.

Operative Treatment of Cancer in Various Localities (Continued)—The Breast.—This branch of the subject was treated in a paper by DR. J. S. WRIGHT, of Brooklyn, N. Y. The speaker, after referring to the subject in some general remarks, described his favorite method of operating and the form of flaps which he preferred, and the process by which he traced lymphatics and explored the axilla for the removal of all possibly infected glands and tissue of every kind. This he regarded, as did all experienced surgeons, as the most important part of the operation, at least the most difficult of performance with satisfaction. Nevertheless, he said, he never occupied more than from thirty to forty-five minutes in performing an operation for removal of cancer of the breast. His method of providing drainage for the wound, referring more particularly to the axillary space, was described.

The reader then gave the history of seventeen unreported cases of cancer of the breast in which he had performed amputation, with a summary of results. One case which was operated upon early, and in which he did not open the axillary region at all, had had no recurrence. Sufficient time had elapsed to warrant the statement that recurrence was safely beyond danger of happening. The reader attributed his excellent results partly to the after-treatment which he invariably employed. This was to administer to the patient, subsequent to the operation, bromide of arsenic for months and even years. He began by giving one-fortieth of a grain a day, and gradually increased the amount to one-fortieth of a grain three times a day.

Operative Treatment of Cancer of the Rectum was the subject of the next paper, which was read by DR. ARPAD G. GERSTER, of New York. The speaker began his paper by giving a history of the operation, and discribing its gradual development from the time prior to the adoption of antiseptic methods. Even up to 1885 the operation was in a very rudimentary state and very disastrous in its consequences, from uncontrollable hemorrhage and septic infection, etc., so that over half of those operated on died from the effects of the operation. Geunis and Volkman had given an impetus to the attempts at removal of cancer of the rectum by showing that cancer of this organ is less malignant than cancer of glandular structures, such as the female breast, for example. The methods of operation had been limited to the circular incision, the circumanal, perineal, and the coccygeal. The latter operation, involving the removal of the coccyx, was done as early as 1874, and was in the right direction, but its results were not much better than former ones. Volkman accidentally hit upon what proved the key to the solution of the problem, by opening the sacral canal, and finding no bad results to follow. His pupil, Kraské, took up the idea and worked upon it until he devised the operation by removal of a portion of the sacrum, thereby reaching the disease from behind and giving opportunity for drainage and the application of antisepsis, and avoidance of the unavoidable hemorrhage, on account of which all the other operations had been looked upon with so much dread. This operation was published in his remarkable paper on the subject of "Removal of Cancer of the Rectum by Operative Procedures," in 1885. The mortality from the operation was at once reduced from about fifty-five to twenty per cent. A large part of this favorable result was due, however, to the opportunity it afforded for the application of thorough drainage and antiseptic measures. Heretofore this had been impossible to accomplish, but now it became comparatively easy, while also there was opportunity for controlling hemorrhage through the opening in the sacrum, whether at the time of the operation or afterward. Also the operation of removal of the tumor could now be performed under better control and observation, so that there was less danger of causing immediate hemorrhage.

The advantages also were shown in other respects. The gut could now be reached from behind and easily separated from its surroundings and the diseased portion from the healthy portion beyond, and after the removal of the former the stump of the gut disposed of in the way best adapted to the circumstances, or according to the approved method of the operation. In fine, the operation for the first time in its history became easy, safe, and comparatively unbloody, such indeed as the surgeon would be justified in advising and undertaking with some degree of confidence. Doubtless some portion of responsibility for the previous mortality from the operation rested with the lack of preparation to which the gut had been subjected in removal of fæcal matter and thorough antiseptic cleansing. Nothing is more important in connection with the operation than this; and if in order to accomplish it it becomes necessary to perform preliminary colotomy, this should be done. For this purpose the usual site for providing an artificial fæcal exit is in the inguinal region on the left side; but when there is an excessively short meso-colon the operation should be done on the right side. The operation of Kraské remains in its essentials the one at present most approved, but it has been modified and improved upon by several operators, notably Heineké, who makes a T-shaped external incision. This was improved by Koller with a view of dividing the sacrum above. These have been mostly for the purpose of remedying some of the defects of the original and to complete imperfect details. They all are constructed on the same general principles and have the same objects in view for the most part. One operation devised begins with incision at the ilium, which is carried down through the sacrum to the coccyx. In regard to operation for removal of cancer of the rectum in women the author said he regarded it as strange that so direct a road to the goal sought as the vagina provided had been so long neglected. For the first time, he believed, recently an operator (Riens) has successfully removed a cancer of the rectum through this route. He has reported but one case. The speaker said that he did not yet regard the operation as perfected, but that each of the different operations described had some advantages, and each some disadvanges. In regard to position of the patient in operating, he said it was better to have the pelvis well elevated. Besides other advantages, this position tended to diminish hemorrhage. The nutrient vessels of the mesentery must be preserved to nourish the stump of the gut, else sloughing may result. As to dressing, he packs the recesses of the wound with iodoform gauze and applies cotton-wool.

The drawing down of the stump of the gut and sewing it to the external skin was regarded as a great step in advance, when this can be done. There are two objections, chiefly, to the suturing of the stump of the rectum in this way: 1, Frequent failure of primary union; and 2, subsequent stricture. The open plan of treatment of the gut after operation has been found necessary to prevent sepsis. The management of defecation after operation is a serious question, undoubtedly. The author said he did not think that defecation twenty-four hours after the operation was liable to do any harm, but many operators preferred to use opium to prevent movement of the bowels for several days subsequent to the operation.

DR. MCL. TIFFANY, in the discussion which now took place on all the papers which had been read under the general subject, spoke of the danger of recurrence after removal by operation of cancer of the breast, in cases in which so long a time had lapsed that it had not been expected—perhaps a year or more. He supposed in such cases that some slight trace of the disease had been left hidden away—in a gland, perhaps—and which had been slow to develop. He had noticed this state of things in several cases of his own, the recurrence showing first along the sternal region. To prevent this happening again he had adopted the prac-

tice, in some cases, of removing the eighth rib so as to get at the lymphatic glands beneath the sternum, which would be found in the periosteum and one in the pleura and pericardium, with the view to examine them and remove any found to be affected.

Regarding operations on the floor of the mouth, it should be done through opening the floor and not through the mouth. The speaker remarked that we are still waiting upon the laboratory for knowledge of the nature of malignant growths. However, his opinion was that the disease is primarily local. Every surgeon, he said, had his pet methods of performing operations and of adjusting flaps, etc., all of which was no doubt of some consequence, but it was inconsequential in comparison, so long as safe plans were followed. The grand object is perfect extirpation of every particle of affected tissue of every kind, wherever situated. His experience taught that a certain number of cases were met with in which, although the disease was completely removed at an early date, recurrence nevertheless took place. It was hard to account for this.

Dr. Theodore A. McGraw, of Detroit, Mich., said that he had determined, in future operations on the tongue and mouth, to dissect for exploration all the neighboring lymphatic regions in relation with the seat of the disease in every case—to go down into the carotid region and explore it thoroughly. For instance, in reference to the case of Dr. Wright, in which there was not recurrence after removal of a cancerous breast without exploration of the axillary region, the speaker said that he had never failed to find evidence, on exploration in this region, of infection, however early the operation had been done. Dr. Wright had simply been very fortunate, but it was not a safe practice to adopt. As for himself, he never neglected to explore the axillary region in operations on the breast.

Dr. Christian Fenger, of Chicago, Ill., exhibited instruments for use in tracheotomy and for plugging the pharynx in operations about the nose and mouth, and described an operation which he performed for cancer of the tongue, by which that organ is removed through the floor of the mouth, demonstrating it by drawings.

Dr. Barnes described dissections of the cheek which he made in exploring for affected lymphatic glands in operating for cancer of the lip. The speaker said that he had taken considerable pains to collect the subsequent histories of his cases, and had succeeded in about forty-five or fifty out of eighty of them. Among these eighty cases two had died from the operation. Of the number whose subsequent histories he had learned, there had been no recurrence in twenty-seven per cent.

Dr. Gerster said, in conclusion, that he was much gratified at the unanimity of expression regarding the great importance of attacking the parts most remotely accessible to infection in removing cancer from any particular region.

The Present State of Anæsthesia.—The first paper on this subject was entitled: "Circumstances under which Chloroform is Preferable to Ether as an Anæsthetic," and was read by Dr. G. W. Gay, of Boston. The speaker said that, in the present state of public opinion regarding the danger of chloroform narcosis, it was perilous to the surgeon to employ it, even if he were convinced in his own mind that it was as safe as ether. If death results from the use of ether, not so very much blame is likely to attach to the surgeon for it; but if he is so unfortunate as to have a patient die under chloroform, he is universally condemned, and it is said that he ought to have known better than to use it. Notwithstanding this sentiment and the risks it entails, over and above medical ones, many surgeons prefer to use chloroform to ether in certain cases and under certain circumstances. The relative danger of the use of chloroform and ether narcosis doubtless varies under different circumstances, and in certain classes of cases chloroform is probably less dangerous to use than ether. The ways in which these agents kill differ from each other. Chloroform kills quickly, ether slowly. Chloroform may prove fatal in the strong and healthy, ether is usually so in the weak and feeble; remedies and measures for resuscitation are, for the most part, useless in chloroform cases, but are frequently available in impending death from ether. Undoubtedly ether is the more safe in general. Deaths, however, which could not have been anticipated are liable to occur with either. Chloroform as an anæsthetic has some advantages over ether, among which are its more rapid action, its more easy administration with fewer unpleasant attendant consequences, such as nausea and vomiting, and its less irritating effects on the respiratory organs. It is largely due to this latter quality that the reader of the paper prefers, he said, to employ it in operations affecting directly, or nearly, the respiratory organs. In tracheotomy for croup or for other conditions requiring it, in which there is any spasmodic condition present, or irritation not of a spasmodic character, chloroform should be employed for narcosis. Ether is irritating to the bronchia, and especially in chronic bronchitis, and chloroform should be preferred to it in patients thus affected. A case of death from suffocation in a child, before it could be brought under the influence of ether narcosis to perform tracheotomy, the reader referred to as illustrating one point of advantage in these cases claimed for chloroform. Had chloroform been used, the operation might have been performed before the child died, because of its quick effect. Suffocation is less liable to result from administering chloroform than ether, and shock is less after chloroform than after ether. In the class of cases described, in which there is disease or irritability of the respiratory organs, ether is often locally very distressing in its use, as well as in its after-effects. Many operations, such as removal of tumors from the larynx, or foreign bodies from it or the trachea, demand an anæsthetic the least irritating to these organs possible. The author said that the only death he had ever had from chloroform narcosis was in an aged and feeble woman. In conclusion, the reader said chloroform is preferable in operations in other regions whenever the respiratory functions are affected, and in all cases of operation upon the respiratory tract.

The Influence of Ether on the Kidneys.—The second paper under the general subject was by Dr. Robert F. Weir, of New York. He first referred to a publication made by himself on the subject in 1890, in which the statistics of forty cases were analyzed, whose kidneys were proved to have been healthy before the administration of the ether, and in which their subsequent condition had been examined into. The result had been to find a trace of albumin after the ether narcosis in twenty-five per cent. of the cases, but of temporary character. Feuter had reported the results of examinations in one hundred and fifty clinical cases and of experiments on thirteen animals, with the conclusions: 1. That ether narcosis produced no perceptible effect on the healthy kidneys in man or in animals. 2. It is not dangerous in health nor when the kidneys are only slightly diseased. 3. Any effects it may produce on the kidneys are very transient.

Since ether has come to be extensively employed as an anæsthetic in England greater opportunities of comparison of its fatality with that of chloroform are afforded than formerly were possible. One investigator has found in ether narcosis, among 350,000 cases, 25 deaths, or a mortality of 1 in every 14,000; while in 134,000 cases of chloroform narcosis there were 46 deaths, or a mortality of 1 in every 3,000 cases. Buller, in 500 cases, after ether narcosis, in persons with previously healthy kidneys, found albumin once. Körté found 5 in 600 cases, under similar circumstances. He asserts very positively that ether does not, but that chloroform does, irritate the kidneys. Garré says that in slight kidney disease ether provokes no important

change, and is very positive in this assertion. Wunderlich gives an exhaustive *résumé* of the subject, and states in conclusion that in existing disease of the kidneys ether frequently augments the disease, but that it is better in this respect than chloroform, two to one, and that casts are found more frequently in the urine as the result of chloroform narcosis than in that of ether. He also says that ether nephritis is capable of being originally excited. Wood does not agree with him altogether. This experimenter, in fifteen animals, found no ether after narcosis in the urine, but did find the epithelium swollen and the kidneys congested. This, according to his view, was caused by some retrograde change in the ether. His conclusions, notwithstanding, are that ether produces no effect in health on the kidneys, but augments disease when previously present. Feuter has demonstrated that the kidneys of animals are much more sensitive to ether than those of man. Bruns has shown that the effects of ether and chloroform on the lungs and kidneys are due to their oxidation and formation of aldehyde and other products of decomposition, caused by exposure of these agents to light and possible admixture with air in partially filled bottles. He advises, in order to prevent these changes taking place, to store them in small, perfectly filled, and hermetically sealed flasks, to be kept in a cool place, impervious to light. These conditions, as we know, are fulfilled by Squibb in this country. He shows that under ether narcosis the temperature falls $\frac{1}{10}°$; under chloroform it is unaffected. Ether causes vaso-motor dilatation; chloroform, contraction. According to Fayer and Wright coagulation of albumin in the small vessels and capillaries is induced by imperfect oxidation. This may throw light on the cause of asphyxiation by ether.

Dr. Weir's conclusions were: Of 305 cases collected, there were 254 with normal kidneys before and after ether narcosis; 7 cases with albumin before and after; 3 in which previous albumin was lessened.

Summary: 264 in which there was no bad effect discoverable. There were 31 cases normal before in which albumin was found after ether narcosis; and 8 cases in which previous albumin was increased; 39 cases in all in which perceptible bad effect was produced, or thirteen per cent. of the whole number examined. In the vast majority of cases, therefore, normal kidneys are not affected by etherization. When it does cause albuminuria it is very transient, and does no harm in healthy nor in slightly diseased kidneys. Elevation of temperature, which formerly he thought would augment the work of the kidneys, in connection with ether narcosis, and bring about suppression of secretion, does not appear to exercise much influence in this respect.

In the discussion which followed upon the two preceding papers, Dr. T. F. Prewitt, of St. Louis, said that he had used chloroform largely as an anæsthetic in his practice. He believed that it was preferable as respects safety to ether in patients affected by diseases of the respiratory system, kidney, or brain. He was sure that he had observed bad effects from ether in such cases, but especially in patients with kidney trouble. Suppression of urine, for example, had occurred in some such cases, which he had attributed to the effects of ether. The speaker concluded by saying that in kidney and lung disease he regarded ether as very dangerous.

Dr. H. R. Wharton, of Philadelphia, declared his preference for chloroform in tracheotomy, partly because of its quicker action, thereby consuming less time, which was sometimes the means of saving the life of the patient when the case was very urgent. He had seen a child suffocate in such circumstances, before it could be got under ether anæsthesia. The speaker said that he was in the habit of using chloroform in all cases of children under one year of age, and regarded it as a perfectly safe practice. As to the effects of ether upon the kidneys, he was impressed by considerable experience that it could be safely administered to patients with moderate kidney disease.

Dr. Rushmore said that he had never got rid of the strong impressions of his early medical teachings regarding the danger of chloroform as an anæsthetic, and had, for the most part, refrained from its use. Regarding the advisability of using chloroform in cases affected by lung and laryngeal diseases, it might be pertinent to call attention to the fact that many of these cases were suffering from weak heart, which the safety of the patient demanded should not be aggravated, which chloroform was particularly well adapted to do. A death from chloroform in his practice happened in just such conditions, in a child on whom tracheotomy was about to be performed. The speaker said he desired to emphasize the great importance of the free admixture of air with the ether while the latter was being administered. An open cone should be used, and the ether given regularly and evenly. If this practice were better observed the irritation of the throat and other unpleasant effects, so much complained of, would be much less observed.

Dr. Robert Abbe, of New York, remarked that ether required more skill in administration than chloroform, and that he was hopeful that the time would come when it would no longer be entrusted to the most inexperienced member of the hospital house staff, but only to one who had had experience. He believed that ether left over from an operation should never be used, since exposure to the air, to which it has been subjected, causes it to deteriorate. Properly given, probably one-half the quantity of ether usually given would suffice. Regarding kidney and lung complications, he had come to the conclusion, he said, that those conditions which had been formerly attributed by him to the ether were due largely to sepsis from the wound, or to other causes, and not to the ether. Regarding chloroform for young children, the speaker said, after considerable experience in institutions with them, he had abandoned its use entirely and always gave ether. A fatality from chloroform early in his experience had left a deep impression and deterred him from using it again, while he had the choice of ether. He was sure that local cocaine anæsthesia was being unjustly neglected, and that much more could be done under it than was realized. He had for several years practised its use, and in quite formidable operations sometimes, with perfect satisfaction, doing operations for hernia and laparotomies even. Surely, it might be well used in many cases in which general anæsthesia is for some reason objectionable, and in which, ordinarily, cocaine is not thought of.

Dr. Lange, of New York, said that he had lost patients from ether as well as from chloroform. Death from either may occur where it could not have been anticipated. It is sometimes difficult in a particular case to decide which is preferable. In deciding it is well to bear in mind the public sentiment regarding chloroform and its possible consequences to the operator, should death result from its use. In a case with which he was associated one of the coroner's jury disagreed with the others on the ground that no operator was justified in using chloroform, knowing its dangers, as he should. No doubt, the speaker concluded, the immediate dangers from chloroform are always greater, while the remote ones are greater with ether; it is not possible fully to estimate the actual relation between them in respect to danger.

Influence of Ether Narcosis upon the Genito-urinary Tract was the title of a paper by Dr. John B. Deaver, of Philadelphia. The speaker referred to observations published on one hundred cases, from which it was shown that ether produces perceptible effects on healthy and diseased kidneys. In a large proportion of his own cases investigation showed irritation of the urinary organs in some part. Of forty-seven cases of this kind, in twenty-one the kidneys alone showed it.

The result of his investigations had convinced him, he said, that ether did produce decided effects upon the kidneys, and that it should be given with caution when any disease of these organs existed.

Dislocation of the Ulnar Nerve at the Elbow.—Dr. Henry W. Wharton, of Philadelphia, Pa., read a paper on this subject, in which he gave the histories of one case of his own and of thirteen of other reporters. In his own case the dislocation was the result of trauma in striking the elbow against the stair-case in falling. Trauma was the cause of the dislocation in nearly all the cases. In his case, after reduction of the dislocation by manipulation, a compress was bound on and a splint applied. This was all that was required in this case, but in many, cutting down and stitching the nerve into its groove were required before it could be made to stay there permanently, the tendency being for the dislocation to recur so soon as the dressings are removed. In some of the cases the nerve was injured so as to require resection in order to cure the pain and restore lost function in the peripheral portion. In treating a case, the reporter said, the simpler method of compress and bandage, with splint—which must not be omitted—should always be tried first. This failing, operation by incision and suture of the nerve to surrounding firm tissue in the groove may be resorted to. The symptoms are principally pain and more or less loss of function, sometimes in the parts supplied by the terminal portion of the nerve.

Ligature of the Innominate Artery.—Dr. H. L. Burrell, of Boston, Mass., reported a case and gave a history of the operation, with personal observations. He believed this was the seventeenth case reported. The operation was done for aneurism. The speaker said that probably some of the successful results of the operation reported were due to premature reports. Had he reported his case a little earlier, it would have appeared as a successful case. The first ligature was applied three-fourths of an inch above the aorta. A second was passed about half an inch higher, but was not completed, owing to some symptoms noticed. The patient made a good recovery. Abnormal sensation and local irregularities in the circulation had about disappeared at the eighth day after the operation. The patient left the hospital about the seventieth day from the operation, and went about his business. He appeared to be every way well, but suddenly on the one hundred and twenty-ninth day, he died suddenly, after being seized with faintness and pallor. The complete absence of pain and the perfect comfort of the patient, from the first, following the operation, the speaker said, was quite remarkable.

Immediate Suture of the Gall-ducts and the Gall-bladder after Extraction of Stones, with Cases.—This paper was by Dr. J. W. Elliot, of Boston. The speaker said that during the past year five cases had been operated on by himself, to remove gall-stone from the gall-bladder and duct, and that all the cases had been successful. Two of these cases were read in detail. In the former of these two, a stone the size of a robin's egg was found in the common duct and removed by incision, after which the incision was sutured. No stones were in the bladder. Recovery was complete in three weeks. In the second case the bladder was found to be of immense size. The stones were removed and the bladder sutured. Other attacks came on later and another operation disclosed several stones in the common duct. The case recovered, but with a fistula, which has not yet closed. These five cases, together with cases reported by other operators, prove the safety of the operation, the author said. The ducts should be left as nearly intact as possible. Therefore, the stones found in them should be removed by crushing, if this can be readily done without too much contusion. If not, the duct should be incised and, the stones being removed, sutured. In some cases the wound has been left open and drained with fairly good results; but the incision in the duct should be sutured if possible, as it is in most cases, undoubtedly.

Congenital Œsophageal Pouch; Excision; Immediate Suture of the Œsophagus; Recovery.—This case was related in a paper by Dr. S. J. Mixter, of Boston. In this case the bougie could not at first be passed into the stomach. Finally it did enter the stomach, and it was found that it had formerly been obstructed by passing into a pouch at one side of the œsophagus, about eight inches down. Operation was performed from below, the pouch reached, excised, and the œsophagus sutured at the site of the excision. Prompt recovery took place. It is the only case, the author said, so far as he knew, reported in this country, but several cases have been reported from abroad.

Bacteriological Aspects of Pus and Suppuration was the title of a very interesting paper read by Dr. Roswell Park, of Buffalo, N. Y. (See p. 705.)

In the discussion which followed Dr. Halsted said, regarding pus-production, that the presence of bacterial organisms did not in some instances give rise to the formation of pus, while the same organisms in other cases did give rise to it in large quantities. For example, in gonorrhœal rheumatism the effusion into the joint ordinarily was not purulent, but a few cases have been reported in which pus accumulated in large quantities. According to Dr. Park's nomenclature the swollen joints would not be, properly speaking, inflamed, unless there were virulent pus-producing organisms present in the effusions. But what if they were present and failed to excite pus secretion? It is impossible to know in many cases whether pus is present or absent, except by withdrawal and examination of some of the effused product. As to the pathogenic membrane, which Dr. Park would name pyophylactic, Dr. Halsted said he thought it impossible to explain its cause or purpose satisfactorily. He was not satisfied that Dr. Park's name described a reality any more than the old one.

The speaker referred to experiments made by himself at Johns Hopkins Hospital, concerning the effects of metals on cultures of pus-producing bacteria. It was found that these would not grow in the vicinity of silver, copper, and some other metals. This fact was important in its bearing upon sutures and could be utilized in other directions in surgery. He was now using silver wire as much as possible for sutures, and silver foil for application directly over the sutured wound under the dressing, with the view of preventing suppuration and facilitating primary union, etc.

Dr. Tiffany, in further discussion of Dr. Park's paper, said that he thought that bacteria were present in granulating surfaces, and that the so-called pus secretion was something more than the exuberant repair-material claimed by Dr. Park.

In conclusion, Dr. Park said that as to joints there would not be much difficulty in recognizing when pus was present in the effusion by the symptoms. If there was, examination of aspirated fluid would easily settle it. He regarded it as wrong to go on teaching that everything was inflammation, as had been the custom, and thought himself right in making and teaching his pupils the distinctions formulated in his paper.

A Case of Cholecystotomy was reported in a paper by Dr. S. H. Weeks, of Portland, Me. The case was that of a woman. During about three years she had had most violent attacks, once in every eight or nine months, of excruciating pain, bilious vomiting, convulsions, etc. Latterly, for a year, the attacks had been every two or three months. Among other symptoms were constipation and headache across the forehead, and jaundice.

Diagnosis was made, on admission to the hospital, of cystic calculi. On operation the gall-bladder was found small and containing a dozen small stones. The cystic duct contained one large stone. The duct was

incised and, after removal of the stone, sewed up. Drainage was left in the bladder. There was much pain for some time subsequently, but the patient made perfect recovery.

Hernia of the Bladder as Met with in Operations for Inguinal and Femoral Hernia was the subject of a paper by DR. CHRISTIAN FENGER, of Chicago. He described one case in which the patient was obliged to press his hand over an inguinal hernia which existed, in order to empty his bladder. In one case he discovered the condition by cutting into the bladder in operating on the hernia. He referred to thirteen reported cases and read a synopsis of each. The surgeon should be on the watch for the condition, since in several of these (4) the bladder had been cut into with fatal results. The condition may be diagnosed by the appearance of something unusual—a mass which, on tracing up by a sound passed into the bladder and one finger thrust into the abdominal ring, can be correctly diagnosed. This condition occurs in women with femoral hernia. He had observed one such case at his clinic in Chicago.

Injuries to the Pneumogastric.—DR. ROSWELL PARK, of Buffalo, N. Y., read a short paper on this subject, in response, he said, to an understanding agreed upon with certain members at the last annual meeting, in view of the uncertainty of knowledge accessible on the subject. He had been able to collect from sixty to sixty-five cases of injuries from operations, accidental and intentional. The fatality among these cases was about fifty per cent. He wished especially to call attention to injuries of the phrenic nerve. It had been tied in several instances in ligating the subclavian, and the result had usually been fatal. He said that experiment and observation have shown that paralysis of one-half of the diaphragm puts life in peril. Injury to the phrenic is very serious indeed.

DR. BRADFORD, of Boston, displayed photographs of the knees of a man of sixty, who in youth had had suppurative inflammation of one knee-joint, which got well under treatment after a long time, but left what was regarded by his surgeon as irremediable stiffness of the knee. The man was an ingenious Yankee and, disregarding medical advice, rigged up an apparatus consisting of a weight and a rope. The latter was also attached to his ankle, and by long-persistent exercises daily the stiffness was finally overcome and perfect motion restored. He was now sixty years old and this knee as good as the other one. The exhibitor thought the case an instructive one.

The Association was declared adjourned.

AMERICAN MEDICAL ASSOCIATION.

Forty-sixth Annual Meeting, held in Baltimore, May 7, 8, 9, and 10, 1895.

SECTION ON SURGERY.

THIRD DAY, THURSDAY, MAY 9TH.

(Continued from page 697.)

Asepsis in Private Practice.—DR. CARL BECK, of New York, claimed that under the present methods of asepsis almost every operation could be done in the patient's room as well as in a hospital. An assistant should be sent the day previous to prepare the room, and nothing should be disturbed for some time before operating.

Ileus was the title of a paper presented by DR. J. B. MURPHY, of Chicago. By the term ileus we mean a complexus of symptoms: abdominal pain of more or less severity, nausea or vomiting or both, and inability to produce a bowel movement. The intestinal canal interests surgeons only from a mechanical stand-point. The causes of obstruction are paralysis of muscles, mechanical obstruction, and spasmodic contraction.

How much of the mesentery can be removed without causing paralysis of the ileus? This depends upon the position of the ligature. The blood is supplied from the mesenteric arteries and also by the parallel artery, which is not accompanied by a vein. In a dog you can cut off the mesenteric supply without producing paralysis, but when both vessels are ligated, you can cut off the supply of only one-half an inch; any more than this will cause a necrosis of the bowel. After the twisting the venous circulation is first disturbed and you get a damming of the bowel; finally you have a cessation of the circulation in the mesenteric vessels, and the last to give way is the parallel vessel. This vessel is protected by a cushion of fat and it takes a long time to effect it. Having no vein to carry back the blood is why we get such a congestion of the bowel. If a thrombus has not been formed the bowel can be passed back into the abdomen. When a section of the intestine is to be removed a little more should be taken from the convex side than from the mesenteric side, otherwise there will be a necrosis of the gut.

Injuries to the afferent nerve will cause paralysis, and he has seen a bowel with a portion of it distended three times its size from this cause. You may have symptoms of ileus from obstruction of the cystic duct, renal calculus, and spasmodic contraction.

The differential diagnosis between local paralysis due to peritonitis and obstruction is very difficult. There may be symptoms of obstruction continuing four or five days without peritonitis, and the presence or absence of peritonitis in early obstruction is a more important point in the diagnosis than any one symptom known.

Scientific Uses of the Surgical Flap was the title of a paper by DR. GEORGE WILEY BROOME, of St. Louis, Mo. This paper detailed the influence the proper adjustment of the flap had upon the usefulness of an artificial limb. The particular point of amputation was not the important part of the operation; it was the technique; and if the cicatrix is in the proper place the artificial-limb makers will have no difficulty in supplying a useful article. He regarded drainage-tubes as a source of danger, exposing the wound to the action of one hundred and seventy-eight different species of cutaneous bacteria. A blood-clot in a wound was not a foreign body, while a drainage-tube was.

The Surgical Technique of Aseptic Wounds.—DR. HENRY O. MARCY, of Boston, read a paper with this title, in which he claimed that when suppuration takes place something has been wrong in the technique of the operation or in the after-treatment of the case. Towels wrung out in bichloride solution should be placed around the seat of operation. Frequent sponging of the wound is bad and drainage-tubes are still too frequently used. Sutures of animal tendons are the best, being stronger and lighter than silk, and are not too quickly absorbed. We should not use undue constricting force in buried sutures. A single running suture is best for coaptation of wounds. Aseptic wounds should be closed immediately after the completion of an operation. This abolishes all subsequent danger from frequent dressing and reduces nursing to a minimum.

Pes Planus.—DR. B. MERRILL RICKETTS, of Cincinnati, read a paper on "Flat-Foot—Supra-malleolar Osteotomy with Report of a Case—Photographs and Specimens of Feet of Man, Orang, Baboon, Chimpanzee, and Gorilla." He called attention to the fact that children were born flat-footed. Savages wearing no shoes were all flat-footed, as they had little or no arch, and civilization tended to the obliteration of flat-foot. The secret of the arch was civilization. All cases of flat-foot causing pain or discomfort should be subjected to Trendelenburg's operation.

Gall-stones in the Common Duct and their Treatment was the title of a paper by DR. CHRISTIAN FENGER, of Chicago. In the majority of cases these are floating

stones, and they sometimes act as a ball-valve. In eighty per cent. of these cases we find, instead of a dilated bladder, a small atrophied one. The symptoms are repeated attacks of pain, but these attacks causing obstruction do not last long enough to cause much jaundice. After repeated short attacks there comes a final attack which kills, and we never know when this final attack will come. In the treatment the usual incision removing all adhesions should be made down to the duct. Sometimes it is impossible to find the stone, as it may slip back into the liver. Out of forty-four operations there has been a mortality of eighteen per cent. Of the writer's three cases all recovered.

Dr. Marcy, of Boston, operated on three cases. In the first case he abandoned the operation, and the patient died ten days afterward. In the second case the duct was opened, and the patient recovered. In the third case the patient died because she was poisoned before the operation.

It was further discussed by Drs. Gaston, of Atlanta, and Weeks, of Maine.

In closing the discussion Dr. Fenger said the incision of the duct should always be closed by a double row of sutures, and drainage invariably carried out.

Skin-grafting after the Method of Thiersch.—This paper was read by Dr. J. C. Oliver, of Cincinnati. This method finds its greatest efficiency in cases where tumors are removed that are so large the flaps cannot be brought together, leaving a large raw surface, replacing cicatricial tissue, and the removal of birth-marks, such as port-wine stains, etc. The operation should be carried out under strictest aseptic principles. Granulations should be scraped away, and if an old ulcer it should be sterilized several days beforehand and all oozing stopped. The grafts should include only the upper layer of skin, and laid on so their edges overlap each other, and covered, so as to keep them in place. Wet or dry dressings can be used. As the hair-bulbs are not included in the grafts, hair will not be transplanted with the grafts. The danger of transplanting disease must always be borne in mind; therefore it is best to get the grafts from the patient's own body.

Complete Dislocation of the Knee of Nine Years' Standing.—Dr. S. F. Forbes, of Toledo, O., reported this case. The dislocation had taken place nine years previous to the operation, and the leg was atrophied and illy developed, and bent at an angle of 45°. After preparing the surfaces of the bones he sutured them with six chromatized catgut sutures with one silver ligature; the periosteum drawn down and sutured with gut and the external flap treated in the usual manner. The leg was then bandaged with strips of wood up as high as the groin. Three weeks afterward the bandage becoming stained from internal discharge, examination revealed that the edge of the upper border of the flap had died and was being cast off. One week afterward the silver wire was lying loose in the bottom of the wound, and it was taken away. From this on the recovery was uneventful, and patient discharged cured ten weeks after the operation with a straight and useful limb, and now walks without crutch or cane.

In excision of the knee-joint direct fixation is unnecessary. External support gives sufficient permanent fixation. Chromatized gut serves two purposes: It keeps the bone steady in the first instance, and keeps the soft tissues from crowding in between the bone surfaces.

Dr. Maclean said Jonathan Hutchinson, of England, condemned this operation, but in his experience he had always obtained good results. He never made use of silver wire, pegs, or other internal methods of fixation. Replying to a question from Dr. Garcelon, of Maine, he said most of his tubercular-joint cases were old ones where the active process had ceased, but he had operated in several cases where the disease was active.

Dr. Davis, of Philadelphia, wished to know if the silver suture which Dr. Forbes had inserted did not have something to do with the good result. He believed the bandage should go up as high as the waist.

Dr. Weeks, of Maine, thought a posterior splint of tin reaching to the ischium was sufficient fixation.

In closing the discussion, Dr. Forbes said with all the muscles cut through at the joint he could not see how there could be any muscular action to disturb the bones, and a bandage to the waist was uncomfortable and unnecessary.

A New Surgical Splinting.—This was an exhibition of the material used by Dr. E. A. Tracey, of Boston, Mass. The splint was made of crushed wood-fibre. While moulding the split the patient should be placed in the proper position and the splint dried over the kitchen fire. Its edges should be covered with chamois and the splint fastened to the limb by roller bandages. Its advantages are strength, extreme lightness, cleanliness, and perfect adaptation to the form of the limb to which it is applied.

A Simple Method of Dressing Fractures of the Extremities.—Dr. John E. Link, of Terre Haute, Ind., described this method, which consisted simply of taking thin shavings of birch-wood, so thin that they could be curled around the finger. These shavings were about four to six inches broad and six to eight inches in length. The roller bandages were moistened and wound around the limb without reversing or twisting, and the shavings placed between the successive layers of bandage at intervals. The advantages were extreme lightness, no heavier than the plain roller bandage, the splints remained exactly where you placed them, and absolute rigidity of the limb.

Dr. Thomas H. Manley, of New York, was pleased to know that plaster-of-Paris bandaging was being driven out, as he thought many of the deformities resulted from the use of plaster. The only objection to the crushed wood-fibre was its expense, which for the present barred it from hospital use. Regarding Dr. Link's material, he thought it the ideal one for fractures in children.

Deformities Following Fractures of the Shafts of Bones was the title of a paper by Dr. Thomas H. Manley, of New York. In adults complicated fractures are succeeded by more or less deformity, regardless of the surgical therapy adopted. The causes of deformity depend chiefly upon two conditions, one preventable in a varying degree and the other beyond our control. In the majority of cases if we use rational methods we secure fair restoration of functions in the normal contour of the limb, but when we have both bones of the forearm completely broken, or the fracture extending into the joint, subluxation or impaction, can we always prevent deformity? His experience with thousands of fractures convinces him that in a considerable proportion of such cases deviations of outline will result.

Hyperostosis with excessive callus follow badly adjusted fractures, which not only impair functions, but may lead to serious pathological conditions by pressure on the main vascular conduits or nerve-roots. Gross distortion generally implies maladroitness or neglect. Among the causes which cannot be removed are, first, those depending on extrinsic circumstances, and, second, those which follow organic or constitutional disturbances. These are pathological. In the treatment of fractures we should always seek to maintain the vitality of the limb and secure osseous repair without disturbing the reposition of the fragments. This is in many cases extremely difficult, especially so in young children and cases badly fed and possibly having atheroma of the arteries.

A rectification of deformities which are not attended with loss of bone or excessive shortening can be accomplished in the early stages. After osseous consolidation is complete, it is a serious question whether rad-

ical surgical interference should be adopted as a routine treatment. As a rule radical interference should be advised only when the functional integrity is seriously impaired or the extent of the deformity is very great.

The usual operations are section of the bone, osteoclasis, osteotomy, and oste-ectomy. The first may be adopted at once, and is of infinite value if done before sclerosis is advanced and the provisional callus resorbed. The other three methods may, under varying circumstances, be very valuable in young healthy subjects; but great care must be taken in their execution upon the shafts of the femur or humerus in adults. In many such cases life itself is imperilled, and in the few in which recovery takes place there is usually permanent anchylosis.

Officers.—The following officers were elected for the ensuing year: *Chairman*, W. C. A. Wheaton, St. Paul, Minn.; *Secretary*, W. L. Estes, of Pennsylvania.

SECTION IN MEDICINE.

Fourth Day, Friday, May 10th.

(Continued from page 701.)

Functional Disorders of the Stomach.—The first paper was read by Dr. J. H. Kellogg, of Battle Creek, Mich., on "New Methods of Precision in the Investigation of Functional Disorders of Digestion." The paper was an illustration of certain modifications made by the writer of the methods of Hayem and Winter of estimating the abnormal acid conditions of the stomach, and was made graphic by the use of colored charts and algebraic symbols. He also exhibited a clinical chart he had devised for a record of the findings in each clinical case. In his system of quantitative determination total acidity is represented by A, and calculated acidity by A′. The acidity and the quantities of chlorine in the different forms of total chlorine (T), free hydrochloric acid (H), combined chlorine (C), and fixed chlorides are expressed as HCl. The values given in his chart relate to 100 c.c. of stomach fluid. The amount of fatty acids, chiefly lactic (L), is expressed in grammes of HCl, which should be multiplied by 2, to determine the actual amount of lactic acid present. The amount of maltose (M) as well as that of soluble starch and dextrine (D) is expressed in grammes of equivalent dextrose. The calculated acidity (A′) is determined by the following formula: C + H − L = A′.

In the study of over four thousand stomach fluids he has found it possible to include all cases of disorder of the chemico-vital processes of the stomach, as regards proteid digestion, in four general classes: Hyperpepsia, hypopepsia, apepsia, and simple dyspepsia (following the classification of Hayem and Winter). Hypopepsia and hyperpepsia present respectively two and three main subdivisions, each of which, together with simple dyspepsia, is divided into two types, according as the measure of the quality of proteid digestion is = or −. Each of these types, together with apepsia, is again subdivided in relation to fermentation into two classes: without fermentation and with fermentation. The characteristics of these several classes, subdivisions, and types are as follows, x representing the amount of fatty acids present:

Hyperpepsia.—The characteristic feature in hyperpepsia is A′ +. The significance of this is that the free HCl and combined chlorine (H + C) are found in quantities sufficient to produce normal hyperacidity, there being excess of stomach work, not regarding quality. There are three subdivisions:

1. Hyperpepsia typical, all kinds of work in excess (A′ + H + C +).

2. Hyperpepsia without excess of HCl (A′ + H − or = C +).

3. Hyperpepsia without excess of combined chlorine (A′ + H + C − or =).

Each of the subdivisions of hyperpepsia presents two types:

(1.) a =, signifying that the proteid digestion is normal in quality.

(2.) a −, signifying that the proteid digestion is inferior in quality, neutral chloro-organic compounds being present.

Each type is subdivided, with reference to fermentation, into two classes:

[1.] Without fermentation (x o).

[2.] With fermentation (x +).

Hypopepsia.—The charactereristic of hypopepsia is A′ −, the significance of which is that H and C are not found in sufficient quantities to produce a normal degree of acidity. There are two subdivisions of hypopepsia:

1. Hypopepsia typical (A′ − H −).

2. Hypopepsia without deficiency of HCl (A′ − H = or +).

Each of the subdivisions of hypopepsia presents two types:

(1.) a =, signifying that the proteid digestion is normal in quality.

(2.) a −, indicating the presence of neutral chloro-organic compounds.

Each type is subdivided, with reference to fermentation, into two classes:

[1.] Without fermentation (x o).

[2.] With fermentation (x +).

Apepsia.—In apepsia there is no normal proteid digestion. The characteristics are a neutral or very slightly acid stomach fluid (A o or −); the coefficient of proteid digestion is zero (a o). There are two subclasses in apepsia:

1. Without fermentation (x o).

2. With fermentation (x +).

Simple Dyspepsia.—The characteristic of simple dyspepsia is A′ =, the significance of which is that H and C are present in sufficient quantities to produce a normal degree of acidity. Simple dyspepsia presents two types:

(1.) a =, signifying that the proteid digestion is normal in quality.

(2.) a −, signifying that neutral chloro-organic compounds are present.

Each type is subdivided, with reference to fermentation, into two classes:

[1.] Without fermentation (x o).

[2.] With fermentation (x +).

Some interesting results have come to light in the course of his study of gastric fluids. It was not commonly supposed that much, if any, sugar was present in the stomach during gastric digestion, but he had found from 7 to 8 gm. in 100 c.c. of stomach fluid. Soluble and unconverted starch often accounted for fermentation where there was hyperacidity.

Dr. George W. Webster, in discussing the paper, said that the whole matter of diagnosis of stomach disorders was in considerable confusion. There was a want of knowledge as to what really took place in health. Our first duty was to determine whether any departure had occurred, and if so where and to what extent. All modern physiologists insist upon the importance of salivary digestion, which is not merely a process of short duration in the mouth, but which continues in the stomach for from thirty to sixty minutes in a neutral or even acid reaction, the latter being due to lactic acid. We did not in our therapeutics distinguish between the effects of vegetable and mineral acids. Acetic acid, for instance, may inhibit the salivary digestion in the stomach, and yet in the mouth it will call forth an increased amount of saliva. There was a vital distinction to be made just at this point. Furthermore, greater stress should be laid on the importance of examining the abdomen to determine the size of the stomach, for it was comparatively easy after a little practice to accurately determine by auscultation and percussion the position of its lower border.

Dr. Rochester believed that a little HCl did not interfere with starch digestion.

Dr. Kellogg stated that other vegetable acids than acetic (as in vinegar) were preferable in calling forth salivary secretion. The best method of all was to chew only dry food. Stimulants of all sorts gradually lose their power. He had found that 1 to 4,000 HCl practically stopped salivary digestion.

Suppurative Pancreatitis.—Dr. I. E. Atkinson, of Baltimore, reported a case of suppurative pancreatitis. He was called in December, 1894, to see a woman, the mother of two children, one twelve years and the other six months of age. She was thirty-five years old, with dark eyes and hair, and of stout build, though it was said that she had already lost forty pounds. Fifteen months previously she had had an attack of hepatic colic with secondary jaundice, disappearing after three weeks. No stone was found in the stools. Her pain was constant and then terminated abruptly. She then became pregnant and was delivered in June last. Did not nurse her child. In August she was thrown over the dash-board of a dog-cart and was apparently uninjured, though a slight diarrhœa came on and persisted for awhile after the accident. In September she had another attack of colic with secondary jaundice. The urine was dark-colored and the stools clay-colored. The pain gradually wore away and the jaundice also. Her system became weaker, however, and she was forced to go to bed. Her pains again became frequent, but were milder in character than before. Jaundice reappeared, and she vomited considerable matter, which was at times streaked with blood. Dr. Atkinson first saw her after she had been in bed about two months. Chest examination was negative. She had been vomiting for several days a greenish fluid, but almost without nausea, and had a mild diarrhœa. Singultus had become quite annoying. The spleen was normal, as was also the area of liver dulness. There was some gas in the bowels. In the epigastrium was an indurated area not movable and without fluctuation. Its diameter was three inches in the median line and four and one half inches laterally, extending over to the left mammary line. Percussion over this area gave a relative dulness but no tympanitis. The lower abdomen seemed normal. The urine showed a gravity of 1.020, was acid, and contained a little albumin but no sugar.

Inquiry revealed the fact that she was suffering from severe lancinating pains in the epigastrium, most intense under the xiphoid cartilage, but also felt in the back between the shoulders. The respiration was rapid and almost of a purely costal type. Pulse-rate was also rapid, and there was a slight febrile movement but no chill. Slight sweating about the head only was noted. Symptoms of intestinal obstruction were wanting; in fact there was a tendency to slight looseness of the bowels. The patient lay by preference in a semi-recumbent dorsal position. A diagnosis was made of hepatic colic with impaction of the stone at the mouth of the common duct just where it joins the pancreatic duct, with incomplete obstruction and resulting hyperæmia and inflammation. She continued to fail, and the tumorous area increased downward to the navel level. The diarrhœa continued, but no free fat could be found in the stools. Vomiting continued of greenish fluid mixed with mucus, blood, or recent ingesta. Treatment failed to give any relief and complete anorexia supervened. No operation was deemed justifiable on account of the patient's asthenic condition. Diarrhœa, vomiting, paroxysmal pain (but no fluctuation over the tumor) all persisted. Finally crepitation appeared over the lungs, bloody pus in the stools, with diminution in the size of the tumor, and the patient died in collapse.

At the autopsy only the abdomen could be examined. The belly was tympanitic and on section emitted in an explosive manner a large quantity of foul-smelling pus, but no fluid was found in it. There were multiple peritoneal adhesions, but all easily separated. Areas of fat necrosis were plainly visible in the omentum on the left side over the abscess cavity. The head of the pancreas was obliterated, while the part remaining formed the posterior wall of the abscess cavity, which extended up behind the stomach. The latter seemed to occupy the usual site of the pancreas and lesser omental cavity. A small bit of the pancreas tissue lay loose in the cavity except being attached by a sort of slender pedicle to the adjoining tissues. At the normal site of the mouth of the pancreatic duct there was an opening between the pus cavity and gut, but the origin of the foul gas in the general abdominal cavity could not be learned.

Dr. Atkinson had recently seen another case of pancreas disease, and admitted that this fact enabled him to make an accurate diagnosis earlier than he could otherwise have done, yet he thought that with the classical work of Fitz on this class of maladies in our minds we ought to be able to make a diagnosis in pancreatic disease of the usual type with reasonable promptness. Fitz has divided the disease into three varieties: 1, The hemorrhagic, which often runs its course in a few days. The diagnosis depends on the finding of a tumor, with a somewhat tympanitic note due to the overlying gut, and yet of a poorer tympanitic note than normal intestine. This form might prove fatal if itself or pass into 2, the gangrenous variety, lasting from a few days to six or eight weeks, and resulting fatally from asthenia and sepsis, and 3, the suppurative variety, which might last over a year. As a rule no fat necrosis was present. His own case was undoubtedly originally of the hemorrhagic variety.

Dr. Stockton, in discussing this paper, stated that he had never seen a case of the suppurative variety, though he had seen cases of pancreatitis in which he had failed to make a positive diagnosis. Dr. Atkinson's case showed little depression and shock during its course. The cause of shock here in hemorrhage was probably due to the direct effect upon the sympathetic nervous system. He had never seen fat in the stools in these cases, but had seen it in three cases of malignant disease of the pancreas. In one instance (a girl) he had witnessed shock, vomiting, slight glycosuria, and albuminuria. The pancreas in this case was large and hard like an interstitial kidney. There had been no evidence of hemorrhage or previous trouble of any kind, and the change was not a malignant one. He would like to inquire if Dr. Atkinson had found fat necrosis more common in the interstitial forms of the disease.

In reply, Dr. Atkinson stated that no gall-stones were found on post-mortem examination, and that there had been no fat in the stools. In general he would say that fat necrosis was present except in the acute cases. Glycosuria was by no means common, and when occurring was generally late in appearance. When we opened the abdomen and found fat necrosis, it was of course a beacon-light to suggest at once the nature of the disease.

Methods of Diagnosis and Treatment of the Gastro-intestinal Tract.—Dr. F. B. Turck, of Chicago, read a paper with this title. He spoke of some of the uncertainties of our present methods of examining the stomach and exhibited several pieces of apparatus which he had devised in order to secure more reliable data. The first was the gastric motor meter, consisting of a hollow rubber bag on the end of a tube, which was passed into the stomach in the usual way and the end of the tube then connected with a water barometer. The movements of the stomach compressed the ball, which influence was registered in the fluctuation of the fluid-level in the manometer. This device determined the character and variety of each gastric movement. It also showed the degree of energy exerted on gastric movement by respiration and peristalsis.

The second instrument was called a gyroméle. It consisted of a rotating apparatus to which was fastened

a flexible slender metal arm inclosed in a rubber stomach-tube and ending in a wrapping of soft sponge. The tube and contained arm were passed into the stomach and then by means of the revolving apparatus the brush was made to rapidly revolve inside the viscus. The detection of the "whirring" noise thus made enabled us accurately to determine by auscultation the location and size of the organ. The percussion of hollow viscera gave very uncertain and fallacious results.

Third. He employed a gastric nebulizer and tube. By means of a double tube air charged with oil of cloves and oil of cinnamon was nebulized by one tube into the stomach and passed out by the other tube.

Fourth. A gastric needle douche. A double tube, with one side large but shorter than the other, and ending in a nozzle device, so that by a syringe or elevated reservoir water could be passed into the stomach in the form of a fine needle-spray and would be returned by the other tube as fast as it entered.

He has found that bacterial growth on the walls of the stomach can be greatly checked by the proper use of these various devices. In experiments on animals he makes use of bits of mucous membrane for a natural culture medium for germs removed in the fluid washings. These bits of membrane, after being planted with germ colonies, can be dried and transported as parchment, but upon being remoistened again bacterial growth recommences.

He next considered natural therapeutics in stomach diseases. Lavage was useful, but had been greatly abused. It did not clean off the gastric wall as well as did the needle-spray, and the latter was far more efficacious as a disinfecting process. Massage was also of service. In addition to the nebulization of the oils named, we might use silver nitrate in weak solution, bichloride of mercury, formalin, and other agents. The plan of treatment was antiseptic, prevented the growth of germ colonies, was analgesic, a vaso-motor stimulant, and the rhythmical distention of the stomach with air acted as a sort of pneumatic massage.

As to general therapeutics, he placed much reliance in the use of the warm bath followed by frictions with ice in those cases of stomach disorder attended with great vaso-motor disturbance. Such procedure, however, was contra-indicated in mitral regurgitation and in fatty heart. It also lessened putrefactive changes in the bowel. Here he was accustomed to combine the oils of cinnamon and cloves with ox-gall in a pill enveloped in shellac, in alcohol, and in betol. The usual coverings for intestinal pills, salol and keratin, he had no confidence in. They passed undissolved not only through the stomach but through the bowels also. For food he advocated a liberal use of gems made from bran. The latter acted as a grinding agent, and seemed to assist in the thorough trituration of other foods.

Dr. Stockton remarked, in discussing the paper, that he did not see how brushing the wall of the stomach would help functional anacidity, as marked irritation does not produce acidity in those cases where no lesion of the mucous membrane is apparent. He would agree with the author that there were very decided limitations to the rational use of lavage; on the other hand, he would not go too far in a conservative direction.

Dr. Turck stated in reply that he had found the sponge a better irritant than drugs. By its use he had produced an acidity up to one-tenth of one per cent. HCl. Lavage, if overdone, will not only not help but will actually produce emaciation.

Nuclein and Protonuclein.—Dr. T. O. Sommers, of New York City, read this paper, in which the principal points made were as follows:

1. The first step in the direction of physiological therapy was taken when the leucocyte was found to be a perfect cell with cell-wall, nucleus, and nucleolus. This established it as a vital unit of the organism and referred its origin to the involution of germinal potentiality existing in the original impregnated ovum, and being evoluted through the regular process of segmentation as are all the other elementary tissues of the organism.

2. The second step was taken when the leucocyte was proved identical with the lymph-corpuscle, and even was shown to be the original corpuscle from which the so-called pus-corpuscles were formed under pathological influence.

3. The third step was the proof of the distributing power of the white blood-corpuscles. It is proved that the proteids formed in the digestive tract are all taken up by the leucocyte, many of them, the mononuclear variety, possessing but little blastema and capable of appropriating but little of tissue pabulum. It is in the multinuclear or polynuclear cells that the great change takes place, converting the proteids by mixture with the cell-blastema of the polynuclear leucocyte, under the molecular influence of the nucleus, into the assimilable tissue pabulum which we now recognize as nuclein.

4. When this nucleized pabulum is received by the individual tissue-cell of the several structures of the body, it is then that it passes through that remarkable metabolism or metamorphosis which makes lifeless material again vital and active in physiological function. To this, which is the form of nuclein extracted for therapeutic purposes, the name of protonuclein is given, after the analogy of Professor Huxley's protoplasm which represents the "physical basis of life."

5. This protonuclein is found to be not only a tissue-builder but a direct antitoxic. Indeed, experiments have proved it to be the normal antitoxin of the body, because unless there was some provision made to resist the toxic agents which are introduced every moment into the organism, we would, to use a Pauline expression, "die daily." Its phagocytic action is also clearly shown by the accompanying micro-photographs, taken instantaneously—*i.e.*, in one-half second.

6. The practical demonstration of protonuclein power has been established in hundreds of cases already. Carcinoma, pernicious anæmia, tuberculosis, tonsillitis, cachectic fevers, diphtheria, and other allied disorders of the organism have yielded to its action very promptly, to the great surprise of some of the best clinicians of the land. It has been used with great effect as a tissue-builder in the most typical asthenia and marasmus cases. It is hard, indeed, to limit the therapeutic effect of protonuclein, as will be readily seen by observing the principle upon which its therapeutic effect is based.

7. In the extraction of protonuclein from the lymphoid structures of the body no chemicals are used, nothing but purely physiological methods being applied. The cellular activity is quickly observed with a one-fifth objective by mixing a drop of the blood with supernatant fluid prepared by adding one drachm of water to three grains of protonuclein. Let this stand a few minutes before adding a drop of it to the freshly drawn blood. A most beautiful physiological panorama is exhibited.

8. Protonuclein is prepared in tablets. Powder may also be used as directed hypodermically. It is proved to be a powerful prophylactic as well as a direct antitoxic, the latter effects extending to all zymotic diseases. It will keep indefinitely, being enveloped in benzoin and milk-sugar, preserving its potential activity just as a grain of corn is preserved by its environment.

9. Protonuclein is indicated in any form of disease where the organism is in a low asthenic condition, or in all zymotic or inflammatory conditions, or wherever there are toxic germs to be destroyed.

The following papers were read by title: "The Conservative Use of Lavage in Diseases of the Stomach," by Dr. J. M. G. Carter, of Waukegan, Ill.; "Constipation and Faulty Elimination as a Factor in Disease,"

by Dr. F. S. Thomas, of Council Bluffs, Ia.; "The Physician," by Dr. Julius Kohl, of Belleville, Ill.

Officers.—The following Section officers were elected for the ensuing year: *Chairman*, William E. Quine, of Chicago, Ill.; *Secretary*, De Lancy Rochester, of Buffalo, N. Y.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 1, 1895.

	Cases.	Deaths.
Tuberculosis	54	106
Typhoid fever	7	5
Scarlet fever	101	14
Cerebro-spinal meningitis	3	3
Measles	341	27
Diphtheria	189	40
Small-pox	1	1

The Ungrateful Cough. — Coughs are ungrateful things. You find one out in the cold; you take it up, nurse it, make everything of it, dress it up warm, give it all sorts of balsams, and other food it likes, and carry it around in your bosom as if it were a miniature lap-dog. And by and by, its little bark grows sharp and savage, and—confound the thing!—you find it is a wolf's whelp that you have got there, and he is gnawing in the breast where he has been nestling so long.—*Oliver Wendell Holmes.*

Hepatic Lesions in Typhoid Fever.—Changes in the liver during the course of typhoid fever have been made the subject of study by Dr. Amyot. The conclusions arrived at were based upon the examination of the liver in seven cases. Little nodules were found in all the specimens, in some in small numbers and in others in comparatively great numbers. They varied from about one-fortieth to one-fifteenth of the size of the lobules, and were distributed irregularly. Dr. Amyot divided the nodules into two classes, the lymphoid and the necrotic. Neither of them seemed to be of new growth. At first they appeared to be alike, but afterward became invaded to a greater or lesser extent by lymphoid cells. The nodules were made up of masses of unstained granular protoplasm. In some of these masses the nuclei were still visible, though unstained. Some of the nuclei were broken up into several fragment, which stained diffusely. The capillaries of the nodules were filled with granular material. Lymphoid cells were found chiefly in the capillaries, but a few were seen between the hepatic cells. The so-called lymphoid nodules differed from this only in the difficulty with which the formed elements were seen and on account of the great number of lymphoid cells present. They were sharply cut off from the surrounding tissues. Besides these nodules there were present areas of capillary dilatation, with only the nuclei remaining in the hepatic cells. These areas were of varying size and location, but were generally larger than the nodules before described; they were as a rule circular in form and were not so sharply marked off from the surrounding tissue as the necrotic nodules; they were present in four out of the seven specimens. There was no pigmentation. The other changes in these specimens were nutmeg change, atrophy and pigmentation of the hepatic cells, and dilatation of the capillaries in the intra-lobular vein zone. Fatty degeneration of the cells in the portal vein zone was present in two of the specimens. Beyond some excess of granulation there was no change in the protoplasm of the cells. Dr. Amyot, quoting Dr. Osler, remarks that no definite relation between the typhoid bacilli and the nodules above described has so far been made out.—*Canadian Practitioner.*

An Unpopular but Frequented Health Resort.—The superintendent of the London prison of Pentonville claims that it is the healthiest place in England, there having been but nine deaths among twelve thousand prisoners last year.

The Helmholtz Monument.—Emperor William has promised a gift of $2,500 and a site for the proposed monument to Helmholtz in Berlin, for which contributions are now being solicited in all countries.

Heredity in its Relation to Insanity and Idiocy.—According to Dr. John B. Chapin (*The Cincinnati Lancet-Clinic*), in the procreation of children, if both parents are of exactly equal potency and not related, the expectancy will be that the physical and psychical characteristics of their children will have a close resemblance to the parents. Thirty-one marriages of parties not known to be related or descendants of relations produced two hundred and seven children. None of the children were reported to have been born with any defect (Dr. Bemiss). If the potential power of one parent is less than the other, and this may be the general rule, while the expectancy would be that the offspring would partake of the stronger parent, there is no absolute rule, even here, notwithstanding the probabilities. There is a corrective process in constant operation. That nature, constantly, wholly eliminates or limits the influence of the weaker element is certainly true, as many families show members of very opposite degrees of psychical development. The reverse is also true, that deterioration is sometimes not wholly eradicated, but continues in an increasing degree. Two persons of marked neurotic organization may transmit their temperament to offspring in a more intensified form, and in the second or third generation, if there is no cross by which it may be by chance corrected, a neurotic heredity or predisposition is established, from which may come with slight exciting cause some form of mental degeneration, acute insanity, epilepsy, etc. In-breeding of temperaments, then, rather than consanguineous in-breeding, is more conducive to the development of the neuroses, to eccentricity, and insanity of the general type. In the discussion of heredity in its relation to insanity and idiocy an attempt is made to show the diversity of facts and views that exists, that there is often a personal element which enters in the preparation of statistics, that there are limitations of our knowledge; also, to formulate an expression of views or principles which are now presented as conclusions: 1. Physical characteristics, those distinguishing the human species, are transmissible as an inheritance. 2. Knowledge, genius, and culture are not an inheritance, but depend rather on influence, education, and environment. Mental receptivity is transmissible. Psychical qualities are not necessarily an inheritance requiring favorable surroundings and circumstances for growth and development. 3. Insanity as a disease is not transmissible by inheritance, but may be acquired or evolved from a neurotic heredity as a basis. 4. A neurotic predisposition is transmissible by inheritance, but there is no absolute rule that it will be transmitted in any given case, or in any case. 5. In-breeding of neurotic temperaments is most conducive to the creation of a neurotic heredity. 6. Idiocy and imbecility may be a defect, having an origin in consanguineous marriages, prenatal conditions, accidents, arrested development, infantile meningitis, tuberculosis, and lack of potency on the part of one of the parents from unexplainable causes.

Pneumonia is, according to Osler, a self-limited disease, not influenced by medicine and not cut short by any means at our command.

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Original Articles.

STRANGULATION OF THE TESTIS AND EPIDIDYMIS FROM TORSION OF THE SPERMATIC CORD.

BY JOHN VAN DER POEL, M.D.,

NEW YORK.

UNTIL within the past few years the subject of strangulation of the testis from torsion of the spermatic cord had received but little attention. Nicoladoni was the first to have reported and described a case of this nature, and although undoubted examples had previously been seen, the cause of the trouble had not been understood; and when the case which I have to report was first seen by me, some twenty months since, I could find but a small amount of literature relating to it, most of this being in the English medical journals, where the cases of Bryant, Whipple, Nash, and Davies-Colley were reported, based upon which my diagnosis was made. As will be seen, my case differs from the others, principally in that the torsion recurred more frequently, and that it was reducible by the patient himself, never having required any further operation than the manipulation of untwisting.

I submit a brief review of each case published up to date, as far as I am aware, that we may be able to note the pathology, causes, and symptoms common to each, with the results obtained in the treatment.

CASE I. (C. Nicoladoni).[1]—A forester's apprentice, sixteen years of age, whose right testicle had never descended. At twelve years he had experienced for the first time an acute pain in the right inguinal canal, and at the same time a small swelling appeared in the region of the external ring, which, together with the pain, disappeared after a few hours' rest. On December 28, 1883, the swelling appeared again, with vomiting and sharp pain on coughing or moving. Three days later he was seen by Nicoladoni in his clinic. He had a painful immobile swelling, the size of a walnut, in the right inguinal canal. Ice was applied, with no result except slight diminution of pain. As the patient feared another attack of periorchitis, he was willing to submit to an extirpation, which was done ten days after admission. In order to lay open the thickened tunica vaginalis both obliquus externus and internus had to be cut, when the sac was found to contain a small amount of bloody, serous fluid, and the bluish-black, pear-shaped, and flattened testicle, whose posterior surface was lightly attached to the sac, and whose cord, two centimetres long, was twisted from right to left—*i.e.*, from without inward, the degree of twist not being stated. The testicle was removed at the internal ring, and a good recovery followed. The cord was completely free, and nowhere held by peritoneal folds. The testis was partly atrophic, and no cause for a primary inflammation could be found, but there was a very evident hemorrhage of the organ, caused by the torsion of the cord, whose veins were completely occluded by the twist, while the lumina of the arteries were still partly patent.

CASE II. (Nicoladoni.)[2]—Day laborer, aged sixty-two, admitted with a swelling of the right scrotal half, which had appeared a few days before, after heavy work, accompanied by pain and vomiting. On account of redness, œdema, and fluctuation, a suppurating periorchitis was suspected, and an incision made. Instead of pus, however, the tunica contained 200 gm. of a hemorrhagic fluid, besides the testis, which was enlarged to one-third beyond its normal size, was of a dark cherry color, and hung on a double pedicle, twisted more than 180°. This case also made a good recovery after extirpation. The testicle was egg-shaped and flattened. Its three-fourths-of-a-centimetre-thick pedicle was composed of the vas deferens, which joined with a second part coming from the rete testis, containing nerves and thrombosed vessels. The enlarged epididymis was the seat of two large cystic growths, which, like the testis, were riddled with small, interstitial hemorrhages. Nicoladoni's general conclusions were that a lately descended testicle, one that was already in the scrotum, was as liable to torsion as one which had been retained in the inguinal canal, presupposing that in both cases the normal fixation was absent, and that it was free and movable on the spermatic cord, or, as he described it, "as a fruit hangs upon its stem." He was the first to draw attention to the condition of hemorrhagic infarction, although I had previously had some forerunners of it in the literature.

CASE III. (the third case[1] is from Helferich's Clinic at Griefswald, reported by Fritz Cahen).—A locksmith, aged twenty-one, who repeatedly from his fourteenth to his nineteenth year had suffered slight attacks of pain in the right testicle, which was still in the inguinal canal. He was admitted with the diagnosis of strangulated hernia, March 8, 1889. Three days before, he had been seized during the night with a sudden sharp pain in the right inguinal region, which he referred to a jump made some days previously. The right testis was not in the scrotum; but on the inner two-thirds of Poupart's ligament there was a tense, elastic tumor, in the upper part of which was a resisting mass. Ice and laxatives for several days did not better his condition. An incision along Poupart's ligament showed a cystic mass as large as a German pipe, continued upward to the internal ring by a thin pedicle. The contents of the sac were a muddy red fluid and the swollen black testis with its cord twisted 360° from without inward. Both cord and testis hung freely within the sac. The testis was removed and the patient made a good recovery in eleven days. The cord was composed of two portions or strands, the larger, the vas deferens and great vessels, the smaller, a number of veins only. Microscopical examination showed all the characteristics of a hemorrhagic infarction of the entire testicle, whose periphery had already undergone a slight necrosis.

CASE IV. (Hans Gervais,[2] from Mikulicz's Clinic at Königsberg).—A boy, aged four years, who six days previously had fallen twelve feet. Two days later there was pain in the belly, below and to the left, and three days after this, swelling and redness of the scrotum, with slight swelling along the cord and inguinal canal of the left side. Examination showed a hard, tender, non-fluctuating tumor in the left scrotal half, adherent to the skin, and from the sensitiveness of the swelling along the canal Mikulicz diagnosed torsion of a lately

[1] Langenbeck's Archiv für klinische Chirurgie, Bd. xxxi., Heft 1, 1885.
[2] Ibid., 1890, p. 163.

[1] Deutsche Zeitschrift für Chirurgie, Bd. xxx., 1890.
[2] Hans Gervais, Inaugural Dissertation, Breslau, January, 1891.

descended testis. On opening the tunica the testis was found of a violet color, the size of a hazel-nut, with a number of dilated veins on the body and head of the epididymis. There was a torsion of 360° at the beginning of the vas deferens, but in which direction it is not stated. This was easily untwisted, and the dark color moderated in a few minutes. Unfortunately an attack of measles intervened on the eighth day, and part of the testicle became necrotic and came away, otherwise recovery was good.

Case V. (Mr. Whipple, reported by W. Gifford Nash.)[1]—A boy, aged seventeen, had had a lump in left groin for seven or eight years, which sometimes disappeared within the abdomen. The day before admission he had strained himself, and felt something give way. Ten hours later he noticed the lump, and had stercoraceous vomiting. Diagnosed as a strangulated hernia, and sent to the hospital. Examination showed an hour-glass swelling, the lower half lying in the scrotum, apparently the testis, while the upper half, the size of a hen's egg, lay on the external ring. No impulse on coughing. Operation disclosed a tense, dark-colored sac, containing blood-stained fluid and a dark claret-colored mass, which was the epididymis, twisted twice. A band of omentum was attached to, and lay around, the hilus of the testis, and this had evidently prevented a complete descent. It was torn through, and dropped into the abdominal cavity. The testis and epididymis were excised as high up as possible. No attempt was made to untwist, and the direction of the twist is not stated.

Case VI. (This case is from Czerny's Clinic at Heidelberg, reported by Dr. Edward von Meyer.)[2]—An Englishman, aged eighteen, who, three days before admission, was suddenly seized with an intense pain in the right testicle, close to the external abdominal ring, accompanied by a condition of partial collapse, small, weak pulse, vomiting, and a swelling. Diagnosis: Ruptured varix, and as there was some redness present, an incision was made. The sac contained, besides clots, the testis, twisted upon its axis and looking like gangrenous intestine. It was untwisted a turn and a half, direction not stated, and as the organ of the other side was in a state of atrophy, it was allowed to remain. Four months later the patient was examined, and the testis, which was hard, lay partly fixed at the root of the penis, and measured three by two and a half centimetres. The left was larger than normal and in normal position. The author did not think that in this case there would be a restoration of function, but would rather expect an atrophy.

Case VII. (Reported by Bryant,[3] of London, February 27, 1892.)—This case was not the second case published, as some of the English writers would lead us to believe, nor was that of Mr. Nash the first. The patient, a lad fifteen years of age, with a partially descended testis of the left side, after an attack of constipation lasting for five days, and a long bicycle ride two days previously, but with no accident, developed what was thought to be symptoms of strangulated hernia. Sudden pain during the night in the scrotum and groin of the left side, afterward reaching upward toward the umbilicus, accompanied by a swelling, part of which seemed reducible and gave to the finger a sensation of crepitation. Taxis was made under ether, with no result. Pain and swelling increased. The upper half of the scrotum, on the left side, with the whole inguinal canal to the internal ring, was swollen, the canal being filled with a tense, dull, fluctuating mass, in which there was no impulse. The gentlest manipulation caused pain. Bryant says he was by no means sure of his diagnosis. An exploratory incision showed a glistening coal-black object, which through the tunica looked like congested bowel, and which proved to be the testis engorged with blood. A torsion of the cord was found in the inguinal canal, untwisted by three half-turns inward, as also the usual dark fluid blood. The cord then looked like a bloated leech. As the testicle was still warm it was replaced, but subsequently atrophied. Bryant publishes with this the history of

Case VIII. (Dr. Keen, of Philadelphia.)[1]—Patient, aged twenty-three, who from birth had been troubled with a reducible, right oblique inguinal hernia, as also an undescended testis of the same side. Three days before admission to the Jefferson Medical College, he had an attack of vomiting, which did not recur, but was followed by constipation, and an increase in the size of the tumor. He tried reduction himself, but this caused pain and tenderness, and he desisted. Examination showed a mass in the inguinal canal, partly tympanitic and partly dull, with the skin inflaming. Diagnosis: Combined hernia and ectopic testicle. The hernia was reduced by taxis, and an incision made. The testis was found in the canal, anchored by a short pedicle one inch long, attached to the abdominal wall at the internal ring. Rotation, three half-turns. The small amount of fluid present had a slightly fecal odor. Keen did not endeavor to untwist, but removed the testicle, and sutured the walls of the canal and internal ring. He thought that without question the torsion was caused by the efforts of the patient to reduce the hernia, but although this may, and probably did, increase the trouble, other cases have shown that it can take place without a known active cause.

Case IX. (Davies-Colley.)[2]—Boy, aged fourteen. Right testicle had always remained in the groin. On the day previous to being seen he had, without known cause, pain in the groin, with vomiting and increase in the size of the swelling. On examination there was no impulse on coughing in the swelling, which was tender and the size of a hen's egg. Diagnosis: Strangulated hernia. Taxis on the third day, and no result. Operation four days after the first symptoms. The usual bloody serum and a black shining mass, resembling small leeches, connected by tight constrictions, were exposed, due to twisting of the cord, which was relieved by three turns to the patient's left, *i.e.*, inward. There was no hernia present, and no communication with the peritoneal cavity. The testis was allowed to remain, but afterward sloughed away.

Case X. (Herbert Page.)[3]—A boy, aged seventeen. Brought to the hospital on account of urgent symptoms in connection with a right congenital inguinal hernia, for which a truss had been worn. Without known cause he experienced during the night a severe scrotal pain, accompanied with swelling and tenderness. This was followed by vomiting (once) and constipation. On examination hernia was excluded. Operation, four days after the onset: The testis was found black and gangrenous, the epididymis greatly swollen and of a deep chocolate color, produced by a torsion of the cord, which was easily untwisted by two turns to the patient's left, from without inward. All dead tissues removed. Recovery normal.

Case XI. (E. Anders.)[4]—Patient, thirteen years of age, was seen (presumably for an incarcerated hernia) with a tense tumor in the left inguinal region, and left-sided cryptorchism. An incision exposed an eight-to-ten-centimetre long mass in the canal, with a broad pedicle, continued into a rigid internal ring. The sac, which only partly protruded through the external ring, and was tightly clasped by it, held a clear fluid and a blue-black tumor, the gangrenous epididymis, which was twisted, and which, when released by cutting the external ring, spontaneously untwisted itself. The testicle and part of the superfluous tunica were removed, and a normal recovery followed. He had carried a

[1] British Medical Journal, June 6, 1891.
[2] Deutsche med. Woch., 1891, No. 25.
[3] British Medical Journal, February 27, 1892.

[1] Medico-Chirurgical Transactions, London, vol. lxxv.
[2] British Medical Journal, April, 1892.
[3] The Lancet, July 30, 1892.
[4] St. Petersburger med. Woch., 1892, No. 47.

truss for five years on account of a presumable hernia, and, perhaps, in his case, this had something to do with the production of the torsion, or the crowding of the imprisoned testicle into the ring.

CASE XII. (R. W. Johnson).[1]—G. R——, twenty years of age, upholsterer, had had an inguinal hernia upon the left side. While blowing a cornet had felt the gut descend, followed by pain and vomiting. Two days later, when seen by Dr. Johnson, he had an irreducible, slightly painful tumor of the scrotum. The next day a suspicious "crackling" on pressure induced Johnson to cut down, after reducing part of the hernia under anæsthesia. The sac was found thickened, but contained no gut or omentum. Testis gangrenous and emphysematous from a series of twists in the cord, three half-turns from within outward. Testicle removed. Recovery normal.

CASE XIII. (W. Gifford Nash).[2]—A school-boy, aged nineteen, an hour and a quarter after boxing felt a pain in the right testis and cord. In tracing up the swollen cord from the epididymis, Nash found a tender lump, the size of a cob-nut, one inch above the testis. Above this the cord was normal. The epididymis lay in front of the testicle. No urethral discharge. Diagnosis: Torsion of the cord. The epididymis was rotated outward and behind to its normal position, *i.e.*, one-half twist—180°. It remained so, and all pain and swelling disappeared. The next morning, with the exception of a slight hardening of the cord at the point of twisting, everything appeared normal.

A note by Nash in the *British Medical Journal* of January 19th last, referring to this case, says that the patient informed him eighteen months afterward that the "right testicle is considerably smaller than the other."

CASE XIV. (A. E. Barker).[3]—Patient, fifteen years of age, whose right testicle had never completely descended and had always remained small. A hernia of the same side had been present since his seventh year. Immediately after a stool the hernia, which had come down, could not be replaced. He vomited twice on this and on the following days, went to bed on the fifth day, but was not sent to the hospital until the ninth day after the first symptoms appeared. There was local swelling and pain. Tongue dry; pulse, 96; temperature, 102.2° F. Right testicle, two inches below the external ring, considerably swollen. Skin dark and œdematous. Abdomen not sensitive. Had passed wind, but there had been no movement of the bowels for seven days. Diagnosis: Omental hernia. Operation: The sac contained bloody serum, with a few clots, and the dark, flattened, and livid testicle, which was twisted outward three half-turns. There was no hernia. Torsion released by three half-turns, and the testicle removed. Recovery normal.

CASE XV. (Mr. E. Owen).[4]—School-boy, aged thirteen, in whom the left testis had never descended. Two days before, after bowling at cricket, a swelling had appeared, with pain and vomiting. Owen found a tender mass, the size of a hen's egg, just outside the external ring of the left side. No impulse. On dragging the tumor downward, the cord and external ring were found free and clear. It could not, therefore, be a hernia. Operation showed the usual blood-stained serum and a gangrenous-looking testis, which was removed, after which a twist, one half-turn outward, was discovered in what was apparently a second sac of the tunica above, which had been cut off by the twist from the main cavity; the twist being immediately at the top of the epididymis, and the cavity of the tunica unusually large. The testicle was freely movable, and Owen thought there was no mesorchium, which, as we will afterward see, is a condition which cannot possibly exist.

CASE XVI. (Langton).[1]—This case was mentioned by Owen. Age not given. No history of injury. A painful tumor, the size of an orange, suddenly appeared in the left side of the scrotum. Cord free and normal above. An incision showed a twist, which could not be released. The testis and epididymis sloughed away. Recovery followed. The direction of the twist was not stated.

CASE XVII. (C. Langenstein).[2]—Presents particularly interesting points. A laborer, aged twenty-five, whose right testis had never descended, while lifting a piece of heavy wood experienced a sudden sharp abdominal pain on the right side below, followed by vomiting and a number of movements from the bowels. Two days later, examination showed a painful swelling along Poupart's ligament on the right side, as large as a hen's egg, giving a short, empty, tympanitic note. Cremaster—reflex pain on the left side, absent on the right. Air passed the rectum, and urine voided spontaneously. Diagnosis: Probable torsion of the cord, but abscess from the appendix, or a mesenteric hernia in an interstitial congenital sac, could not be excluded. Three days later an incision along Poupart's ligament exposed a cavity beneath the obliquus externus, reaching from the pubic tubercle upward and outward to about two finger-breadths above the anterior superior spine of the ilium, lined with a serous membrane and divided into two chambers (by an adhesion), which contained bloody serum in the outer half, and the black and shining testis, with clots, in the inner. The epididymis was directed upward, and the testis downward, a twist of 180° inward, exactly at the insertion of the cord to the testis, which was easily released by placing the epididymis around and underneath, untwisting it outward. The pedicle or cord was of normal color, and, becoming broad toward its base, was inserted into the sac-wall below and in front, along the greater lateral half of Poupart's ligament. In this inverted fan-shaped funiculus lay the vas deferens toward its inner edge, while the outer and greater portion consisted of fatty tissue and veins only. As the testicle did not resume its natural color, and as there were inflammatory processes present, it was extirpated. No trace whatever could be found of either internal or external rings. The cord showed an old adherent torsion just at the head of the testis, as if it had at some previous time been twisted 180°, although it had never given rise to any symptoms. On section, the testis was found filled with blood and clots, but no trace of tissue structure and no thrombi were present in the vessels. Microscopical examination showed a high degree of hemorrhage into all the structures, both into the tubules themselves, and into the interlobular tissues. The cavity of the sac which lay between the layers of abdominal muscles neither communicated with the abdomen nor with the scrotum. This peculiar condition, as also the absence of the rings, was explained by the fact that it was a case of incomplete development, the testis having been arrested, on its way to the scrotum, in the canal, and the vaginal process having not yet sunk to the bottom of the scrotum, hence no external ring had formed and the internal ring had already closed. This is extremely interesting, and goes to prove Bramann's contention that the old idea about the formation of the gubernaculum is wrong, *i.e.*, that it reaches from the lower end of the testis, while it is still in the abdomen, to the floor of the scrotum, or develops immediately before the descent of the testis in this situation.[3] His examination, partly microscopical, partly macroscopical, has shown that even at the period of the greatest development, *i.e.*, the sixth month of fœtal life, it cannot be traced upward beyond the aponeurosis of the external oblique, and submits in proof dissections of six-months-old fœtuses, just before the beginning of the descent,

[1] Annals of Surgery, Philadelphia, March, 1893.
[2] British Medical Journal, April 8, 1893.
[3] The Lancet, April 8, 1893. [4] Ibid., November 18, 1893.

[1] St. Bartholomew's Hospital Reports, vol. xvii., p. 188.
[2] Sammlung klinischer Vorträge, No. 92.
[3] Bramann, Archiv für klin. Chir., Bd. xl., S. 138.

where he had dissected over the external ring down to the aponeurosis of the external oblique, which is shown as a thin and transparent membrane, but not broken through, and with nothing leading downward as a gubernaculum to the scrotum, which is fully formed and filled with connective and mucoid tissue. The testis at this time lying in close connection with the epididymis, being held in the same fold of peritoneum, the mesorchium, and sitting on the upper end of the gubernaculum, which is shown to lead downward toward the inguinal region, and enter the abdominal wall at this situation.[1]

Case XVIII. (E. Lexer).[2]—Reported at the Association of Berlin Surgeons, February 12, 1894. A mason, aged sixty, had had repeated attacks of swelling of the left testicle during the preceding three years, but never during earlier life. Two weeks before admission it came on again with severe pain, did not resolve as before, but increased rapidly in size. The scrotum on the left side was found filled with a tumor the size of a child's head, tense and fluctuating, with the skin adherent, red, and œdematous, its upper limit sharply defined on the cord. No especial pain at this period while in bed. The usual thickened tunica, bloody serum, and blackened testis were found, with a torsion of the cord inward of about 270°. The testis was flattened, and, besides being gangrenous, contained a large cyst adherent to it, and which took the place of, and which microscopical examination showed to be, the epididymis. The origin of this cyst was uncertain. Testicle removed. Recovery.

Case XIX. (Lauers).[3]—A boy, aged fifteen, had a sharp, severe pain in the left inguinal region, without known cause. Examination showed an hour-glass swelling in the left side of the scrotum, the upper part as large as a hen's egg, painful, and fluctuating. On operation, a torsion of the cord was found, direction not given. The nutrition of the testis was considerably affected and it was removed. Recovery.

Case XX. (L. Defontaine).[4]—A child of eight months, with a painful tumefaction the size of a pigeon's egg, in the left scrotal region, extending upward as far as the external ring, and which had been present since the night before, accompanied with fretfulness and vomiting. The testicle could not be made out. Diagnosis: Strangulated intestinal hernia. Operation, twenty hours later, showed a twisted cord, resembling very much in color, size, and looks what a strangulated gut in a child of this age would be. The testis was swollen, and twisted twice about itself. This was easily reduced, and the testis allowed to remain. Five and one-half months later there was an apparent atrophy. The direction of the torsion was not stated.

Case XXI. (W. Rennsen),[5] I have been unable to obtain an account of.

Case XXII.—The case which I have to present differs, as we have said, from those already reported, in that the torsion was reducible by the patient himself, and that it recurred much more frequently than those whose history also showed a recurrence, coming on as often as twice within twenty-four hours on several occasions. About eighteen months since, I was consulted by a recent graduate in medicine, twenty-five years of age, and at present an interne in one of the city hospitals, concerning a trouble with which he said he had been afflicted off and on for the preceding three years, having been just past twenty-two when it first occurred. He had been told by his father, also a physician, that at birth his right testicle had but partially descended, and did not reach the upper part of the scrotum until two or three years later. There had never been any hernia.

He stated that at irregular intervals, sometimes at night when asleep, but more frequently during the day when up and about, without apparent cause, without strain, undue exercise, or sudden movement, he would be seized with an acute pain in the right testicle, radiating upward along the cord and inguinal canal, and that on "feeling where the pain was," he would find the testis, epididymis, and cord swollen and extremely sensitive, the cord feeling hard and knotty to the touch. At the time of the first attack, not understanding the cause of the trouble, or the method of relief, he suffered for about two hours with intense pain, and finally, on lying down, the pain and swelling both subsided. This time he seemed to think his trouble was caused by wearing his trousers pulled up too snugly on the right side. After this, the attacks varied from twice within twenty-four hours to but once in four months, and at no time was he able to associate or connect any special movement or exertion with its coming on. From the subsequent attacks, up to within the time I saw him, he obtained relief by "pulling or stroking the cord upward," or "lifting the testicle upward," evidently allowing it to untwist, the manipulation lasting sometimes eight or ten, but latterly only two or three minutes, before the pain would subside. After the attacks he was never confined to his bed, but would immediately be up and about. Since realizing the nature of the trouble, it has happened but three times during the eighteen months, on which occasions he has endeavored to examine the conditions more closely, but the pain has each time been so acute that a prolonged examination has been impossible, and as at this period he understood quite well how to obtain relief in a very short time, he was rather loath to calling in outside aid, fearing that matters might be made worse. He has found, however, that the twist on these three occasions has been from right to left, *i.e.*, from without inward, and instead of "lifting up the parts," or "pulling upward on the cord," he has succeeded in relieving the torsion by twisting from within outward, and has found that the whole organ has been twisted two full turns upon itself, and that it has made two complete circles with the cord as its axis.

On examination I found the following condition: The right testis was of about the same size as the left, the usual difference as regards the situation of the two being exaggerated, the left being well down to the bottom of the scrotum, while the right hugged the upper wall, and seemed drawn upward toward the inguinal canal. On attempting to rotate, I found that I could make three complete half-turns in either direction, without causing the slightest inconvenience or pain; but if held in this position for a minute or more, the veins of the cord became swollen and hard, showing an evident obstruction to the return circulation. Beyond this point it was possible to twist still more, about one-fourth of a circle, when the manipulation became painful and I desisted. When left to itself it would remain in this position. The left testis admitted of a rotation of a little over one complete circle, but when left to itself it would return to its normal position. Five months ago, an incomplete, reducible inguinal hernia developed upon the same side, which is easily retainable in the abdominal cavity by means of a truss.

When we come to look at the causes of this accident we find that they are both predisposing and active.

All, excepting Nicoladoni's second case, sixty-two years of age; Lexer's case, sixty years of age; and Defontaine's, aged eight months, have occurred either in young men or boys, with ages ranging from four to twenty-five years, most of them being at, or shortly after reaching, the age of puberty, about at the period of greatest activity, after the testis has become of size. One condition, or predisposing factor, it seems, is absolutely necessary, and without which it would be impossible for a torsion to take place, *i.e.*, the absence of fixation of the testicle by means of the peritoneal reflex, the

[1] Bramann: Archiv für Anatomie und Physiologie, 1887, Tafel xv., Fig. 3; also, Hertwig's Entwickelungsgeschichte, S. 304.
[2] Archiv für klin. Chir., xlviii., 1., 201.
[3] Am. Soc. Belge de Chir., Bruxelles, 1894.
[4] Arch. Prov. de Chir., iii, 137, Paris.
[5] Med. Weekbl., Amsterdam, 1894, i., 265.

mesorchium, so that it hangs freely on a pedicle, which, at any rate, is not fixed for some distance. This explains in itself the necessary anatomical conditions under which the twisting can be complete. Nicoladoni lays special stress upon this point, the absence of a short fixation, by a short mesorchium. The origin of this abnormal condition, which shows itself either as a too slender or too long, or as a complete absence of fixation, is to be traced back to early disturbances in the development of the processus vaginalis, and the shortening of the gubernaculum, which takes place at the same time.[1] As the abnormal formation of the mesorchium allows great movement to the testicle, it can, hence, make difficult the entrance of the testicle into the inguinal canal, and in this way be the cause of late or incomplete descent. Kocher has shown two examples of this kind.[2] In fact, the majority of cases have been with incomplete descent, and in many of them this abnormal condition has been mentioned. Nicoladoni says, "The expressions 'absence of a mesorchium' and 'too long a mesorchium' do no not refer to opposite conditions, although apparently we might think so. In no case is there an 'absence' of the mesorchium, for as the testicle already has a peritoneal covering before its descent, while in the posterior part of the abdominal cavity, the mesorchium cannot possibly be absent after it has descended. Hence, the cases described as 'absence of the mesorchium' mean only that the testicle is deprived of its normal fixation, while a 'too long mesorchium' relates as well to the cord as to the peritoneal covering both of itself and testicle."

Besides this, according to Lexer, we have another important predisposing factor, as well for the occurrence of the torsion as for the impossibility of its untwisting itself, especially when the testis is in the canal, and that is, its flattened shape, to which attention was drawn in several of the cases. With this condition present it can be understood how certain, perhaps unusual, movements of the body and lower extremities can become the direct cause of the torsion, and, if having once taken place, how difficult it would be for the testicle to resume its normal position. So, during heavy work, as in Nicoladoni's second case, and in Lauenstein's, after lifting a heavy piece of wood.

It has been impossible, however, in all cases to discover a direct cause, for although, besides these two, we find Whipple's coming on after a strain, von Meyer's after sneezing, Johnson's while blowing on a cornet, Nash's after boxing, Barker's after straining at stool, and Owen's after bowling at cricket, yet there are a number where nothing whatever unusual had happened, as in those of Keen, Davies-Colley, Page, Anders, Lexer, and in my own; in fact, in several, the first symptoms appeared while the patients were asleep. In several, where the pain came on only some time after the accidents which were supposed to have caused them, it looks as if the torsion had perhaps commenced at the time of the accident, and had afterward been completed by subsequent bodily movements; that is, completed sufficiently far to cause a disturbance in the circulation of the cord and testicle. For testes which lie in the scrotum the conditions would be different from those where they lie horizontally in the inguinal canal, and in this connection Meinhardt Schmidt has drawn attention to the fact that we have an analogue in the torsion of ovarian tumors, which certainly finds some causation in mechanical acts, such as changes in position from movements of the body and intestines. We naturally get more torsion with a long mesorchium than with a short one, but violence *per se* is not necessary. Any slight movement may complete the amount necessary to interfere with the circulation, which varies in the individual cases.

Pathology.—As we have seen, in all cases where the vaginal process was opened there was a greater or less quantity of bloody serum and clots. The testis and epididymis were congested and swollen, of a dark or bluish-black color, and sometimes in a more or less advanced state of necrosis. Sections of testis showed it filled with blood and clots, with sometimes no trace of tissue structure, as in Lauenstein's case, while microscopically there was a true hemorrhagic infarction, a high grade of hemorrhage, or overfilling with blood of the entire organ, both of the lobules themselves and of the interlobular tissue. The necrosis, when present, was especially marked at the periphery. This condition of hemorrhagic infarction is well explained by Miflet's important work,[1] in which is found the foundation for a complete understanding of the consequences of torsion, as far as is possible, by experiments upon animals.

He used eighteen dogs, as follows: In seven he made artificial emboli; in four he ligated the internal spermatic artery; while in five he ligated both the internal spermatic artery and veins; and in two the veins alone. In two of the first seven the deferential artery was also stopped. These are his general conclusions and results:

1. The internal spermatic artery has, for the testis, the significance of a terminal artery.

2. Interruption of the flow of blood through the internal spermatic artery, either by ligation or by embolus, is quickly followed by the formation of a hemorrhagic infarction, and these infarctions involve especially the superficial layers of the testis.

3. The glandular structure of the testis is especially sensitive to any disturbance in the circulation of the cord, not only when both the arteries and veins are interfered with, but also when the circulation through the veins is interrupted. The glandular tissue always disappears rapidly, which change takes place with more or less tissue proliferation.

4. The epididymis, which is supplied by the deferential artery, is not at all affected by ligature, and very little by embolus.

5. If at the same time the circulation is disturbed in both the spermatic and deferential arteries, then the secreting tissue of the epididymis is also destroyed.

As to the torsions themselves; where stated, the accident happened twelve times upon the right side, and nine times upon the left; the greater length of the left cord, therefore, not having increased its liability, but, on the other hand, the twisted cord has always been abnormally short, the testis either lying within the inguinal canal or high up in the scrotum. The direction of the twist, however, when mentioned, has been nine times from without inward, and but three times from within outward. Lauenstein mentions this point, as resembling the idea brought forward by Küstner, as regards the torsion of ovarian tumors, that the pedicle of the tumors of the right side had a left twist, and those upon the left side had a right twist. The degree of torsion sufficient to cause strangulation has varied greatly, from a half-turn in Keen's and Nash's cases, to two full turns in Defontaine's and my own; for, as we have seen, a long mesorchium would permit more twisting to take place, before the circulation would be interfered with, than a short one.

Symptoms and Diagnosis.—In most cases there have been more or less well-developed symptoms of inflammation, such as pain, local swelling, and, in some instances, œdema, redness, and fever; and when we find these conditions associated sometimes with constipation and vomiting, together with absence of impulse in an irreducible swelling, developing suddenly, after perhaps some strain or exertion, we are naturally led to suspect a strangulated hernia. There are, however, some distinctions. With torsion of the cord the constipation may not be absolute. The vomiting, which is not apt to become stercoraceous, is not so persistent.

[1] Bramann: Archiv für Chir., Bd. xl., S. 136.
[2] Deutsche Chirurgie, 1887, p. 578.

[1] Ueber die pathologischen Veränderungen des Hodens, welche durch Störungen der lokalen Blutcirculation veranlasst werden. Langenbeck's Archiv, Bd. xxiv., 23.

The shock is less, and there is not so much abdominal distention nor pain at the umbilicus. In fact, these latter may not be present at all. Again, the tumor, especially if outside the external ring, is apt to be harder and more solid to the touch, and if the seat of torsion is below the ring, the swelling would not extend into the canal, and the finger passed through the ring would, in this case, be able to clear up any doubts. Still, as we have seen, a correct diagnosis may at times be extremely difficult and impossible before making an exploratory incision, especially where we also have a hernia present. Abscess from an inflamed appendix, as also gonorrhœal and traumatic inflammation of the testis and epididymis, should not be forgotten.

Treatment.—If left alone there would probably be either one of two results—atrophy or gangrene. In this connection Chaveau's experiments on goats are interesting. He found that after a subcutaneous torsion of the cord the testis would atrophy, and that gangrene only occurred in cases where he had previously introduced substances into the circulatory system which had undergone putrefactive changes. Atrophy is not a very infrequent result following the subcutaneous operation for varicocele, and it is well known that the surgeon Delpech was killed by a patient on whom he had operated for double varix, and who afterward had atrophy of both testes. As Nash says, "It will probably not happen very often that surgeons will be fortunate enough to see cases at their commencement, but now that the accident and its causes are becoming generally known, they will at least be prepared for it, and some will undoubtedly be recognized in time to be untwisted." In all cases where castration has been performed there has been a good recovery, and this would be much earlier resorted to where we have a testis in the inguinal canal, as it is well known that they are apt to become sarcomatous if left in this situation. In eight cases the testis was not removed. Two of these were untwisted without operation, followed by atrophy in one. In three the testis sloughed away during healing. In two, there was subsequent atrophy; and in one, five months after operation, there was no change except that it was harder than normal, and fixed by adhesions at the root of the penis.

I record still four cases* which, without doubt, were results of this accident, but where the torsion was not discovered; and I am especially indebted to the papers on the subject by Lauenstein and Lexer.

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THE ADMINISTRATION OF THYMUS IN EXOPHTHALMIC GOITRE.

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Apropos of a report by David Owen, in the *British Medical Journal* of February 16, 1895, of a case of exophthalmic goitre that was successfully treated by the accidental administration of the thymus gland, a survey of the benefits derived from the administration of minced thymus in the following cases of that disease will additionally tend to show that in certain cases, at least, of exophthalmic goitre a diet of thymus may be followed by results that are surprising, gratifying, and very suggestive.

The first of these cases, whose history I give in full detail from my private case-book, was under my personal observation for eighteen days only. She has, however, reported her progress to me by letter a number of times since I saw her. Since treating her, several other cases have come under my observation, two* in the Department for Nervous Diseases at the Vanderbilt Clinic, and the others in private practice, and all have been treated either with the fresh gland or with thymus tabloids. These cases are still under treatment with the thymus; nevertheless from the improvement that has occurred in one or more of the symptoms, even in a few weeks' time, I feel justified in adding them to this report.

Case I.—Miss B——, aged twenty, consulted me, October 2, 1894, stating that several physicians whom she had consulted had told her she had Basedow's disease. She consults me now to get something to make her sleep, as she has been unable to sleep for the past two nights, and also because she has felt so extraordinarily weak for the past few days.

Her hereditary history is noteworthy. Her deceased father had prominent eyes, was a sufferer from insomnia, and had died of pneumonia two years ago. Her paternal aunt had prominent eyes, and also a slight swelling in the neck. She had frequently complained of palpitation of the heart and of general weakness. The patient's mother says the doctor who attended her stated that her death was due to "heart trouble." Miss B——'s brother, aged twenty-five, has a tendency to prominent eyes, but is strong and active.

Except for an attack of measles at fourteen years of age, Miss B—— had had good health until two years ago. A short time after her father's death, at which she was very deeply grieved, she began to suffer from palpitation of the heart on the least exertion. From that time her eyes have gradually become more prominent, though she has been seriously troubled with insomnia for the past year only. In addition to the above she complains of a loss of energy, mental depression, excessive sweating on the right side at night, sensations of "flushing," trembling of the hands, and occasional headaches, but has had no aural disturbance. Her appetite is poor, and her bowels are usually constipated.

The examination showed a fair amount of exophthalmos, both Von Graefe's and Stellwag's symptoms being present. The inco-ordination on convergence was slight. The apex-beat of the heart was strong, 124 per minute, regular, and was not displaced, nor was there much evidence of hypertrophy. The lungs were apparently normal, and no abnormality could be made out in the region of the thymus. The thyroid was moderately enlarged, soft, and compressible, but no enlarged accessory thyroids or lymph glands were present. A moderate bruit existed over the thyroid. She appeared slightly anæmic, and the result of the examination of the blood was as follows: Red corpuscles, about four million six hundred thousand per cubic millimetre; white corpuscles (not counted); hæmoglobin, sixty per cent. (Von Fleischl's hæmom). Microscopically nothing worthy of remark was noticed. The urine was 1.022 specific gravity, and negative. She was put on the thyroid tablets, one tablet (gr. v.) *t.i.d.*, and, in addition, trional was prescribed for the insomnia.

October 4th.—She states she feels worse and has slept no better than before. The heart-beats had increased to 136 per minute, and were also irregular at times. The respiration was 28. The thyroid tablets were discontinued, and later in the day arrangements were made with a butcher to supply her daily with a fresh thymus from a healthy lamb that had been brought up on milk. This was to be minced fine and taken raw if possible.

October 10th.—She returned and stated she had been unable to take it raw as it made her sick at her stomach and she could not retain it. Therefore she had

* 1. H. H. Johnson: Boston Medical and Surgical Journal, 1888. 2. Bramm: Langenbeck's Archiv, 1890, p. 163. 3. Erichson: 8th edition, vol. ii., p. 813. 4. Volkmann: Berliner klinische Wochenschrift, No. 53, 1887.

* For the privilege of referring to these in this report the writer is indebted to Dr. Frederick Peterson, Chief of Clinic, Department of Neurology, at the Vanderbilt Clinic.

taken it broiled very slightly. At this date the heart was 120 and regular, the respirations 20 per minute. She says she has slept a little better, but no change except that noted above is perceptible.

October 20th.—I saw her for the last time, as she and her mother were unexpectedly compelled to return to her home in a neighboring State. She stated she had slept very well for the past few nights (no trional or other hypnotic had been taken since the 10th) and had taken the thymus uncooked for the past three days without nausea. The pulse was 100, the respirations 18.

Since October 20th her mother has written to me a number of times to inform me that her daughter has steadily improved, and in the last letter written by Miss B——, on March 10th, she writes that she feels as well as she ever did, that the swelling in the neck has disappeared, and that she can take a considerable amount of exercise without getting fatigued. Her pulse is about 72 and she sleeps as well as she did before her trouble commenced. Her mother tells her that her eyes are no longer prominent and that the color has returned to her cheeks.

Case II. has, unfortunately, not followed the treatment very regularly; sometimes neglecting to take the glands for several days at a time, but he has nevertheless considerably improved in many respects. Briefly summarized, the most prominent symptoms presented by him were a general diminution of energy, severe insomnia, palpitation of the heart, fatigue and moderate dyspnœa on the least exertion, prominent eyes with lagging of the upper lids on looking downward, and a slight horizontal nystagmus on rapid convergence, a slight increase in the size of the thyroid, pulse from 100 to 110, and a well-marked, fine-waved tremor of the hands. The above symptoms had been becoming progressively more prominent during the past four years. After an irregular administration of slightly cooked lamb's thymus for two weeks the pulse-rate had fallen to 78 per minute and was perfectly regular. He slept very much better, and was feeling stronger. His eyes had become much less prominent, and only after a very searching examination was a slight degree of Von Graefe's symptom found to be still present. When I last saw him his eyes were apparently normal, his pulse was 76, his capacity for hard work had greatly increased, and the tremor of the hands had entirely disappeared.

In a third case that presented the usual symptoms of exophthalmic goitre the thymus gland tabloids of Messrs. Burroughs, Wellcome & Co. have been administered at the rate of twelve to fifteen 5-grain tabloids per day and have been followed by improvement, especially as regards the ocular symptoms. In this case after a week's treatment with the tabloids in the above dose a very considerable decrease in the enlarged thyroid occurred. This diminution still continues to slowly progress. Two and a half weeks after the tabloids were begun, the pulse-rate, which in the beginning averaged about 124 per minute, had become 96, though it would readily mount to 120 after moderate exertion or excitement. She feels, however, much stronger, and has been able to resume her work.

Possibly had a larger number of the tablets been given a more rapid and marked effect would have followed. At present she is taking the fresh thymus gland and the results of this procedure the writer will give in detail in a later paper on this subject.

If the results following the administration of thymus in these cases be compared with those published by Owen,[1] I think one may reasonably exclude the factor of mere coincidence, for though cases of Graves's disease do get well sometimes without any treatment whatsoever, Owen shows the suppressed symptoms began to return when the administration of the thymus was discontinued.

The remarkable and rapid diminution of the increased heart-action and the progressive abatement of the other symptoms would certainly lead one to believe that by administering the thymus via the gastro-intestinal tract some substance that influences the deranged metabolism in a peculiar and striking way has been added to the blood.

The present state of the knowledge of the physiological chemistry of the thymus gland certainly does not help one to form a definite idea as to what this substance may be. It is true that Schindler has shown that a high percentage of adenine, a base derived from nuclein (Halliburton[5]), exists in the fresh and in the dried thymus of the calf; but whether the extractives or the nuclein (Kossel[6]) or the derivative base, adenine, of the thymus are the chemical bodies or not which act in exophthalmic goitre in a manner analogous to that attributed by Goulay[7] to the nucleo-albumin of the thyroid body when the latter is given in myxœdema, one has not sufficient evidence for positively stating.

A brief look through some of the scanty literature of the experimental results obtained from depriving young animals of the thymus would lead one to believe that the presence of the thymus gland in the lower animals is not a necessity for the well-being of those animals, provided we are ready to accept the results of those observers as finally conclusive. Though Langenhaus and Saveliew[8] got negative results in the dogs and rabbits that survived after extirpating the thymus, it is difficult to reconcile such results with the apparent physiological activity of the said gland in certain orders of young animals. The deaths of many of their animals resulted, according to the authors, from gastro-intestinal disturbance consequent to "too much green food" in the case of the rabbits, and in the dog worms were found in the intestine. No definite systematic information, however, is given regarding the character of the diet from first to last, and this, in my opinion, is an important omission when one takes into consideration the difference between the large, well-developed thymus of a calf or of a lamb that has been brought up on milk, and the small, atrophied thymus of a calf of equal age that has been weaned early and fed on grass. Further details on this score will be submitted, however, in another paper.

In 1893 Macalister[9] called attention to the remarkable metabolic effects that occurred during a diet of thymus in a case of pseudo-hypertrophic paralysis, and his results would tend, to say the least, to substantiate one of the ideas of some of the older writers,[11] that the thymus stands in relationship with the state of development of the muscular system. In exophthalmic goitre also many symptoms are manifested by the muscular system that possibly arise from the action of the pathologically altered product of the thyroid which Lemke[13] states is a specific muscle-poison that separates the normal tonus into many small contractions.

But does the thymus add to the blood a special substance that has an "oppositeness" of action to the hypersecretion of the thyroid, or to some poisonous substance occurring in the blood consequent to the qualitative alteration of function of the thyroid? Possibly, as Owen suggests, though I do not unite with him in bringing forward the "oppositeness" of action that is claimed by Zanda,[14] on repeating Bardeleben's (1841) experiments, to exist between the spleen and the thyroid, as a reason to strengthen the probability of this possibility, for Fano[15] was unable to corroborate Zanda's statements, and the writer on repeating Zanda's experiments, using young and middle-aged dogs, finds also that the consequences of total thyroidectomy, after previously extirpating the spleen, are the same as in animals who possess the spleen intact. As Breisacher first pointed out, when thyroidectomized dogs are fed on meat that has been thoroughly extracted by boiling, the appearance of the cachexia is much delayed; if, however, the dogs are fed on the

bouillon from the meat, the cachexia rapidly develops. The writer has, on the other hand, fed thyroidectomized dogs on thymus without apparently hastening or delaying the appearance of the cachexia otherwise than if the animals had been fed on so much ordinary cooked meat. Nor have I ever seen any diminution in the symptoms of exophthalmic goitre follow a diet of underdone meat, provided no other therapeutic means were employed at the same time.

That a functional relationship, at present unknown, does exist between the ductless glands is manifest from the results both of experimental investigation and of clinical observation. Thus the compensatory (?) hypertrophy of the thyroid that occurs after extirpating the spleen is well known. According to Cadéac[38] enlargement of the thymus follows thyroidectomy in lambs. Likewise, Rogowitsch[16] has found that after the thyroid has been removed in rabbits, the pituitary body becomes enlarged. Clinically, Boyce and Beadles[17] emphasize the frequency of the same occurrence in myxœdema, sporadic cretinism, and cachexia thyreopriva in man. In acromegaly[28] hypertrophy not only of the hypophysis, and either hypertrophy or atrophy of the thyroid occur, but an hypertrophy or a "revival" (Marie[18]) of the thymus has often been reported. In myxœdema, and especially in exophthalmic goitre,[18] a similar hypertrophy or revival of the thymus is frequently found, as is evident from the cases of the latter disease reported by Johnston, Hale White, Mosler, Spencer, Marie, Moebius, Lasvenes, Reymond,[34] and several other observers.

The possibility of the participation of the quantitatively or the qualitatively altered internal secretion (?) of such glands, whether hypertrophied concomitantly with the thyroid or secondarily to the thyroid, as a causal factor of some of the symptoms in certain cases of exophthalmic goitre is therefore worthy of consideration. That the increased secretion of the thyroid is not the sole producing cause of the whole complex of symptoms of exophthalmic goitre many eminent observers concede. A mere glance at the final results of surgical interference with the enlarged thyroid that occur in certain cases of this disease will show that such is correct.

Briefly summarized, these surgical results may be stated to be as follows:

After partial extirpation of the supposed hypersecreting thyroid a complete (?) cessation of the symptoms occurs in one set of cases. In the second set merely a temporary moderation[20] of the symptoms has followed, and this moderation has been succeeded in a short time by an increase even in some of the former symptoms.

In other cases no immediate or remote diminution in the symptoms has resulted from the operation.

Lastly, the operation has been followed in a number of instances by fatal results which were accompanied by the symptoms of acute thyreopriva in some cases, while in others the cause of death was attributed to the "inundation"[19] of the system by the large amount of thyroid juice that was unavoidably introduced into the circulation by the necessary manipulations of the operation.

Equally suggestive are the results of the observations both of clinicians and of recent experimenters. Among the clinical reports of sundry diseases treated by the administration of the thyroid extract the most striking in this connection is by Béclére.[23] According to this observer, after a myxœdematous patient had taken 92 gm. of thyroid extract in eleven hours, the symptoms of the myxœdema disappeared and were replaced by the symptoms of "intoxication," which consisted of tachycardia, instability of the action of the heart, fever, insomnia, agitation, incomplete paraplegia, increased respiration, exophthalmos, and fixedness of look.

A practically similar though less marked effect has been noted by a number of writers to follow the administration of large and repeated doses of the thyroid extract, but nothing definite as regards the artificial production thereby of a goitre is mentioned except by Ballet and Enriques.[24] These investigators state that after injecting the thyroid extract into dogs they succeeded in producing fever, tachycardia, tremor, and in addition a goitre; all of which disappeared when the thyroid was discontinued, but reappeared when it was readministered. It is true such injection experiments are complicated, as Horsley[25] pointed out some years ago, by the presence of toxic tissue fibrinogens, and due allowance must be made therefor. The writer has, however, fed dogs with enormous quantities (50 gm. per day) of commercial thyroid extract, also with 100 to 200 gm. of fresh thyroid daily for fifteen days, but so far with a negative result.

On the other hand, cases of exophthalmic goitre that have been treated with the thyroid extract have improved[26] instead of becoming worse. Such improvement results, according to Kocher,[19] from the "thyreoidin" causing a retrograde metamorphosis of the hypertrophied thyroid, and as the thyroid disease is not always primary, it is in this way beneficial. The most natural way, and the one more in accord with the evidence above, is that a sufficient quantity of a proper quality of the so-called "thyreoidin" is added to the altered blood, and by this addition some of the symptoms of exophthalmic goitre are caused to disappear, while others are moderated only, or even unaffected, and in some instances slightly, or even greatly, increased. In this connection those cases[30] which present at the outset the symptoms of exophthalmic goitre, later the symptoms of a combination of exophthalmic goitre and of myxœdema, and finally of myxœdema alone, are very interesting; likewise the case of Jeanselme[27] in which exophthalmic goitre and scleroderma coexisted. Similarly acromegaly and myxœdema, or cretinism and acromegaly, are well known to occur in combination.

Lastly, we are confronted with the fact that cases of exophthalmic goitre exist in which the administration of thymus is followed by a disappearance of the symptoms and by a recurrence of them, as in Dr. Owens's case, if the thymus is discontinued. This latter factor, as I stated above, certainly negatives the idea of the mere coincidence of spontaneous improvement. Likewise no variation of the ordinary diet except the addition of the thymus was resorted to in the cases under my observation, and though a moderate improvement, which disappeared when a meat-diet was resumed, has been observed to follow the employment of a milk-diet,[36] either with or without special attention to the correction by drugs of the disturbed digestion, the effects possibly resulting from this source are reduced to a minimum.

It will be noticed from the description of the cases reported by myself that they, as well as Owens's case, are evidently not of the type that is secondary to an ordinary hypertrophied thyroid and what the ultimate effects of the thymus administration will be on the symptoms exhibited by this latter class of cases, the writer is unable at present to state definitely; but judging from the apparent absence so far of any effect in several such cases that have lately come under his observation, probably no very great improvement will ultimately result.

A consideration of the above evidence and a careful comparative study[4,10] of the similar and of the opposite objective and subjective symptoms that are met with in exophthalmic goitre, acromegaly, and myxœdema, or in the combinations of these diseases, will lead one reasonably to conclude that the alteration that frequently occurs in one or more of the ductless glands besides the thyroid possibly plays a more or less prominent part in the causation of some of the symptoms of the disease (or possibly diseases(?)) to which the terms exophthalmic goitre, Graves's disease, and Basedow's

disease are applied. But whether the alteration of these glands, for instance of the thymus, is primary, concomitant, or secondary to a primary derangement of the nervous system (Marie), or to a toxic blood state induced by the functionally altered thyroid (Moebius), or by various "toxins" of gastro-intestinal origin, are questions which possibly may be explicitly answered in the future when a more definite knowledge of all of the functions and of the effects of disordered function of the individual ductless glands has been obtained from clinical observation and from further experimental investigation.

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REPORT OF AN EXPERIENCE WITH ANTITOXIN AT THE NURSERY AND CHILD'S HOSPITAL.[1]

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Since the date of an epidemic of diphtheria in the hospital in the fall of 1893, there has been from time to time an occasional outbreak in the wards. In January of this year, with the aid of fresh invoices from without, another epidemic was started associated with more or less of measles and broncho-pneumonia. These conditions so complicate the histories, and a close personal knowledge of the cases being impossible on account of my obstetrical obligations, I regretfully refrain from any attempt at reporting them. Dr. J. J. Mapes, the house physician, who has given to all this work his intelligent and close personal attention, may be able to do so at some future time.

The following report is consequently limited to an account of the antitoxin immunization in regard to which the facts at hand came under my personal observation, are uncomplicated, and surely simple enough to be beyond the likelihood of misstatement or misconstruction. I present them without further comment as follows:

Total number of cases in the hospital from January 18th, the time of outbreak, to April 18th, the date of immunizing, 46. In all these cases cultures of the Klebs-Loeffler bacilli were obtained, and observations of them doubly verified in most cases by the separate examinations of the Board of Health and Dr. Mapes. In 30 of these 46 cases abundant local clinical aspects existed, there being well-marked pseudo-membrane in the throat, nose, or larynx; the remaining 16 cases had only sero-purulent or sero-sanious nasal discharges as a local manifestation. Of the entire number of 46 cases 15 occurred between April 1st and April 18th, and 7 between April 11th and April 18th, plainly showing the epidemic to be gradually on the increase in the hospital up to the day of immunizing. On April 18th 30,000 units of antitoxin were obtained from the Board of Health, and 110 children immunized. On April 20th 26 more children were immunized, and the 32 remaining children in the hospital that had previously had throat or nose lesions containing Klebs-Loeffler bacilli were not immunized. Of these cases immunized the following table shows the age, number, and antitoxin units:

Age.	Number.	Antitoxin Units.
3 to 4 weeks	7	50
2 months	12	50 to 75
3 to 6 months	36	100
7 months to 1 year	22	150
2 to 4 years	59	200

Careful examinations were made individually for albumin, variations of temperature, and skin lesions, in connection with the general observation of the children as a whole. A few (4) showed faint traces of albumin in the urine, but this in no case (where the urine could be regularly obtained) persisted more than three to four days, nor was there in any case any rational symptoms pointing to any special disturbance of the kidneys. Three cases, eight days after the injections, and 4 cases, nine days after the injections, had an eruption, more or less profuse, of erythematous patches of the size of a silver dollar, in some isolated, in others running together about the head, trunk, and extremities; but in no case were they associated with any appreciable fever; in this respect markedly differing from cases that have been reported of erythematous eruptions occurring with rather startling elevations of temperature. Red, pea-sized, shotty papules appeared rather profusely on the face, in one case on the eighth day, and in another on the ninth, and the same kind of papules appeared on the face and both arms in a third case, also on the

[1] Read at a meeting of the New York Clinical Society.

ninth day; these likewise were associated with no rise of temperature.

The only temperature which occurred following the injections that could be accredited to antitoxin (one case with persistent high fever proved to be measles) happened within the twelve hours immediately succeeding the injections, and stood as follows:

In from six to twelve hours after the giving of the antitoxin the temperature rose, in the cases of children who had been previously normal, to

100°	plus	in	17 cases
101°	"	"	32 "
102°	"	"	16 "
103°	"	"	4 "

That is, in 69 cases out of a total of 136 children immunized the temperature rose within twelve hours from 100 to 103° F., but within the next twenty-four hours it had in all these cases virtually fallen to the normal. The amount of reaction, as manifested by rise of temperature, crying, restlessness, and sleeplessness, seemed to be directly proportionate to the youth of the infants, and to their general debilitated condition; while the stronger and older ones showed little reaction, scarcely being disturbed at all, many of the younger infants, especially the marasmic ones, cried all night, going almost entirely without food or sleep for twelve to fifteen hours.

No new case has broken out in the hospital since April 18th, the day of immunizing, with the exception of the assistant physician on the resident staff, who about three weeks after the children were immunized, and one of the ward nurses, who five weeks after, developed well-marked cases of tonsillar and pharyngeal pseudo-membrane, with both clinical and bacteriological evidences of true diphtheria. Neither had been previously immunized. This would seem to show very conclusively the continued presence of diphtheria bacilli in the hospital, and will make subsequent observation of the children still more interesting and instructive.

The conclusions, which seem not only justifiable, but fairly inevitable, to be drawn from this report are as follows: 1. The evident value of antitoxin in affording a certain period of immunity against the infection of diphtheria. 2. The apparent harmlessness of its use in this way with children even of tender age and condition.

May 28, 1895.

NOTE.—During the epidemic four nursing babies went to the diphtheria ward with their mothers who were suffering with diphtheria. These babies were all injected and then stayed from two to three weeks constantly exposed to diphtheria without contracting it.

An Ingenious Medical Man.—One of the most novel methods which has come under our notice for bringing one's name "under the notice of the public" was recently adopted, as we learn from a French contemporary, by a medical man in Montpellier. Desiring to practise in the town, he set himself to work to conjure up a scheme for informing the inhabitants that he was quite prepared to attend to their ailments. After mature consideration he decided upon the following ingenious plan: He engaged the services of the town-crier, and instructed him to announce throughout the town that Dr. So-and-so, giving his address and full qualifications, had lost a valuable dog, and that anyone finding and returning the same to the owner would receive a reward of £25. It soon happened that the subject of the lost dog became widely discussed, as well as the owner who had incurred the loss. The conclusion was arrived at that he must be wealthy, owing to the large reward offered, and the latest information is that the dog has not been found, but the ingenious practitioner has now plenty of patients.—*Medical Press.*

Progress of Medical Science.

The Permanent Results of Symphyseotomy.—Sufficient time has now elapsed since the wide adoption of symphyseotomy by antiseptic methods to furnish data which will assist in estimating the permanent results of the operation. As most of the patients requiring the operation are dependent on their work for a livelihood, it becomes a serious matter to ascertain the condition of health as regards ability to work which can be promised to these patients in selecting this operation. The reports from Schauta's and Gustav Braun's clinics by Von Woerz and Richard Braun (*American Journal of the Medical Sciences*) afford data of value upon this question. Von Woerz reports ten symphyseotomies performed some time previously, most of the patients being still available for observation. Of the 10 patients, 1 died of sepsis after the operation; 6 are in good condition, abundantly able to work without inconvenience; 1 could not be followed after leaving hospital care; 1 cannot stoop to work on her hands and knees without pain in the sacro-iliac joints; 1 suffered from incontinence of urine, which was cured by taking cold baths. Braun reports 8 symphyseotomies, and of these none died; 6 are now in good condition, working without inconvenience; 1 suffers from incontinence of urine and sacro-iliac pain on heavy lifting; 1 has incontinence of urine on straining and lifting. In Von Woerz's cases 5 were treated by drilling the symphysis and wiring with silver wire; in 4 the wire suture could not be successfully applied, and 1 had no suture. While good union is possible without suture, yet suture is preferable. Braun treated his cases with drilling and wiring, 3; with suture of the periosteum, 4; and without suture, 1. There seemed to be no difference in the result in these cases. From these cases the conclusion may be fairly drawn that symphyseotomy under good surgical care is an operation undoubtedly saving fœtal life at no serious risk of death or permanent disability to the mother. In view of the excellent results obtained without drilling and wiring the symphysis, the procedure is unnecessary.

Acute Perimeningitis.—Acute perimeningitis is an inflammation of the cellular fatty tissue around the cerebral dura (*The New York Medical Journal*). Its evolution is sometimes acute, spontaneous, with no appreciable pathogenic cause, and sometimes secondary, with cellulo-muscular inflammation near the spinal column. The symptoms resemble those of inflammation of the medullary meninges. It begins with sharp pains, with alternate remissions and exacerbations, in the legs and along the spine, and they are accompanied by stiffness of the limbs or of the neck. At the same time there is febrile movement with constipation. Subsequently there are pains in the abdomen and in the lumbar region, also in the legs. During the suppurating period, when the spinal canal is invaded with pus, the disease becomes infectious; sometimes paralysis sets in, and death takes place in a short time. In this evolution the meningitic symptoms may fail to show themselves, and the diagnosis is consequently rendered more difficult. The idea of cerebral meningitis, however, may be dismissed in the absence of the meningitic tripod, of ocular complications, and of the typical course of the temperature. Cerebro-spinal meningitis is epidemic and associated with infectious localizations in the lungs and in the heart, and its characteristics are distinct from those of acute perimeningitis. In the diagnosis of spinal meningitis great difficulties often arise, although in the beginning the early development of paralysis is a symptom of the disease. If it appears later on, there is reason to believe that it is a question of acute perimeningitis. Perimeningitis may be confounded with typhoid fever, osteomyelitis, and rheumatism. For this

reason, in the analysis of the symptoms, we should bear in mind that perimeningitis shows three different types in the beginning: A subacute type, with violent invasions, chills, headache, and renal pains; an acute type, the first symptoms of which resemble those of lumbago, and which is accompanied by insomnia, pains, cramps, and febrile movement; and the third type, which is slow, developing silently for several months before the symptoms appear. The treatment of acute perimeningitis in the beginning is the simple expectant method, and, when it is possible, operative opening of the spinal canal.

The Benefit to Ear Patients from Nasal Treatment.—From summary observations on this subject, Dr. Gradle, of Chicago, draws the following conclusions: 1. Acute suppurative inflammation of the middle ear if not treated (locally) has a tendency to become chronic, the tendency increasing with the age of the patient. 2. Chronic suppuration of the middle ear rarely heals without treatment. Neither acute nor chronic purulent otitis is influenced by nasal treatment, but the liability to relapse after their cure is decidedly lessened by the removal of naso-pharyngeal anomalies. 3. Acute catarrh of the middle ear will generally terminate in complete recovery under aural treatment, and sometimes even without it, provided there are no persistent nasal or pharyngeal lesions. But when these are present the disease is more likely to become chronic in spite of aural treatment, and in many instances can either not be cured, or if improved will speedily relapse unless the normal state of the nose and throat is restored. 4. Proliferation or adhesive disease of the middle ear is the consequence of retro-nasal catarrh, and its course is determined by the course of the disorder causing it. Aural treatment alone is practically useless in this form of trouble, while nasal treatment, if successful as far as the catarrh is concerned, will also arrest the ear-disease. The restitution of hearing, however, depends on the length of time the disease has lasted, and is often aided by ear-treatment after the cure of the retro-nasal catarrh.—*Journal of the American Medical Association.*

Recent German Surgery of Gall-stones.—Dr. Kehr out of 77 cœliotomies for gall-stones found the calculus more or less firmly fixed in the cystic duct in 26 cases. As the accepted process for their removal failed in 7 cases, he resolved upon a new (or at least unreported) procedure, namely, the direct excision of the stone from the cystic duct, with immediate suture of the wound in the duct. With this method he has had the best results. Formerly he employed the suture of the gall-bladder in the abdominal wound and waited for the pressure of bile from behind in conjunction with the diminishing swelling of the mucous membrane to force out the calculus. Now he resolves upon an immediate cystico-lithectomy if he is convinced that the stone will not be spontaneously discharged, if he feels that it is too large to pass through the contracted cystic duct, if the condition of the patient allows further operation, if the cystic duct can be freely exposed so as to render its accurate suture possible, if an immediate evacuation of the cystic duct is necessary for drainage of the biliary system. Dr. Kehr reports a series of 68 operative attacks on biliary calculi, in addition to 25 previously reported. The cases are grouped as follows: 1. Cholecystostomy, 31; with 1 death from suppurative cholangitis antedating the operation. 2. Choledochotomy, 6; with 1 death from peritonitis due to perforation of the transverse colon, the suture of the duct having held. 3. Cœliotomy and loosening of adhesions about the ductus choledochus, 1. 4. Cystectomy, 6. 5. Cholecystectomy, 5. 6. Cholecystendysis, 2; with 1 death from pneumonia, the suture of the gall-bladder being firm and there being no peritonitis. 7. Cœliotomy on account of mucous fistula, 2. 8. Exploratory cœliotomy, 3 (gastric carcinoma, 2; pancreatic carcinoma, 1). 9. Closure of biliary fistulæ, 4. 10. Opening of biliary abscesses in the abdominal wall, 2. 11. Reopening of closed biliary fistulæ, 6. No deaths occurred except as noted. Of the 3 fatal cases only 1 was directly due to operation. Kehr has arrived at the following conclusions: 1. Too few operations are performed for biliary calculi; early operation is important. 2. Many patients with gall-stones belong not to Carlsbad, but to the surgical clinic. 3. The public must be informed as to the danger of biliary lithiasis, and the physician must not delay a necessary operation. 4. The course of the sickness and the intensity of the symptoms often determine the necessity of an operation. 5. The urgency may be great, although icterus, enlargement of the liver, and tumor of the gall-bladder are absent. The pains, too, need not be typical of hepatic colic. 6. With chronic stomach trouble, for instance, gastric dilatation, especially with so-called cramps of the stomach, the possibility of gall-stones and of hernia in the linea alba must be borne in mind. Many patients are treated for gastric ulcer when they have calculi. 7. Riedel's tongue-like projection is presented in many cases of dropsy of the gall-bladder. Not seldom there is a confusion with a floating kidney of the right side. 8. Biliary colic is often a consequence of an inflammation of the gall-bladder. The accompanying icterus depends on the swelling of the mucous membrane of the biliary passages. 9. Adhesions, particularly between the gall-bladder and the pylorus, occasion attacks similar to colic, even when the stone has long ago been discharged. 10. For the removal of stones from the gall-bladder, cholecystostomy is useful; if the operation is properly performed no fistula results. 11. Adhesions must be broken up so far as possible. 12. The ideal method, with its modifications, must be rejected. 13. Total extirpation is to be thought of only when there is serious involvement of the walls of the gall-bladder, as in carcinoma, ulceration, etc. It is not indicated by a stone lodged in the bladder. In the case of a small, shrunken organ, Riedel's or Lauenstein's procedure is not available and then cystectomy is indicated. 14. Calculi of the choledochus are to be removed by incision of the duct, as previously stated. 15. Calculi of the cystic duct must, under certain conditions, be removed by direct incision. 16. Operation is often less dangerous than medicinal treatment. 17. A return has never been seen by the author. 18. Operations for gall-stones must not be performed except in surgical institutes. 19. They should be undertaken only by one experienced in abdominal work.—*Medical and Surgical Reporter.*

Abuse of the Curette: Obliteration of the Uterine Cavity.—Fritsch (*Centrabl f. Gynäk.*, No. 52, 1894) reports the case of a woman, aged thirty-five, who came under his care in May, 1894. On January 31, 1892, she was normally delivered of her first living child. Child-bed proceeded without high temperature but with constant metrorrhagia. On February 24, 1892, the patient was placed under chloroform, and it appears that the practitioner used the curette freely, and to his astonishment brought away a tough piece of tissue, which he could not tear with his fingers. A tampon was applied, the metrorrhagia ceased for good, and the patient was up at the end of a week. From that time forward the menstrual period was never seen. Fritsch found the patient very healthy, free from hysteria or any other neurosis. Both ovaries could be felt; they were free from any evidence of disease. The os externum was represented by a shallow pit; it was split up, then the cervical canal, above its obliterated orifice, was found to be not quite an inch long; the finest sound failed to pass further. The uterus appeared to be reduced to an infantile condition, hardly measuring two inches and three-fourths from os externum to fundus. By aid of sound and scalpel an artificial uterine cavity was made, and kept open by a tent and gauze. After a fortnight the new cavity was com-

pletely closed. In October, 1894, the patient was examined once more; she was found in the same condition as in May. As her general health was perfect and no operation could be likely to improve the local condition, nothing was attempted.—*British Medical Journal*, March, 1895.

Serum Treatment of Diphtheria.—Vierordt (*Deut. med. Woch.*, March 14, 1895) has treated 75 cases with Behring's serum. In 61 cases Lœffler's bacillus was found, and to this number two other cases must be added, as other children in the same house suffered from diphtheria, bacteriologically proved. From these 63 cases 8 are deducted, either as being moribund on admission or owing to some additional lesion being found after death. The mortality was then found to be fourteen per cent., as against sixty-seven to thirty-seven per cent. in the preceding six years. If the moribund cases were added the mortality would be twenty-five per cent. Among those not tracheotomized the mortality was 2.7 per cent., and among the tracheotomized forty-six per cent., the latter number not being more favorable than hitherto. Of the 24 cases admitted with the larynx intact, only 1 died, and, indeed, only one of these cases developed the barking cough. Of 5 admitted with a croupy cough and hoarseness, 1 died. Of 23 cases admitted with stridor and retraction of the soft parts, 13 were tracheotomized; in 9 of these 23 cases the symptoms of obstruction passed off without tracheotomy in eighteen to forty-eight hours, a fact hitherto not within the author's experience. Early treatment did not always prevent a fatal issue. The cases did not appear slighter, but even, perhaps, more serious than usual (37 belonged to the severe or very severe group). No noticeable changes were seen in the membrane after the injection. The absence of spread to the larynx was remarkable. In short, a number of very severe, even desperate, cases recovered. A favorable action on the heart's action was noted. Albuminuria seemed to play a smaller part than hitherto. Paralysis of the palate was noted frequently, but no extension occurred. The author has never seen a rapid fall of temperature after the injection. A rash was noted fifteen times. A relapse occurred five times. The author concludes that no remote harmful effect was produced by the serum. Although these cases provide no absolute scientific proof, Vierordt is more and more inclined to believe in the specific action of the serum. Its use is imperative. Cases should be treated without waiting for bacteriological proof. Less than 1,000 units should be rarely used in slight cases in the young, and should be repeated in severer cases within twenty-four to forty-eight hours. The author draws attention to the rigid character of the observations which should be made upon cases treated with the serum. It must be some time before the value of the method can be absolutely proved.—*British Medical Journal.*

Ichthyol in the Treatment of Tuberculosis.—At a meeting of the Royal Academy of Turin on March 8th, Scarpa (*Gazz. degli Osped. e delle Cliniche*, March 16th) communicated the results obtained in 150 cases of pulmonary phthisis treated with ichthyol between April, 1894, and January, 1895. Having referred to the favorable results of the treatment reported by Cohn, of Hamburg, in 100 cases of the same disease, the author pointed out that from what was known of the action of ichthyol as an astringent of the vascular system, as an antiseptic, as a disinfectant of the digestive apparatus, and as an *aliment a'épargne* it was *à priori* presumable that it would be useful in phthisis. He employed the drug in the purest possible state, dissolved in the proportion of one-third in distilled water or any suitable vehicle. Of this solution he gave from 20 to 180 or 200 drops, dissolved in water, in the course of the day. The remedy was in all cases well borne. No other treatment was employed beyond attention to the hygienic environment and feeding up. Of the 150 cases 25 died; all these were in a desperate condition before the treatment was begun, but even in them the ichthyol appeared to do good. Of the remaining cases 17 were apparently cured; in 50 there was notable improvement; in 32 there was some improvement; in 28, up to the date of report, the treatment had produced no effect. The good effect of the ichthyol shows itself first in the influence which it has on the symptoms produced by the local lesions—cough, expectoration, dyspnœa—afterward on the general condition. Physical examination shows profound modifications in the lesions, especially in the circumscribed infiltrations of the early stage, but also not infrequently in those of the breaking-down stage. The author does not attempt to decide whether the ichthyol acts only by improving nutrition or also by direct action on the lesions, or by neutralizing the toxins produced by micro-organisms—both Koch's bacillus and the staphylococci, etc., which are the causes of secondary infections. He insists on the advantages which ichthyol presents over guaiacol in the treatment of tuberculosis.—*British Medical Journal.*

Diphtheria.—Fürst (*Berl. Klinik*, *British Medical Journal*, March, 1895) discusses the clinical and bacteriological early diagnosis in suspicious sore-throat. Early diagnosis is one made within twenty-four to forty-eight hours. Under the clinical diagnosis the author discusses (1) the indifferent; (2) the suspicious stages; and (3) the stage of the fully developed disease, and he gives at some length the symptoms belonging to these various stages. The bacteriological cannot set aside the clinical examination. The latter enables one to separate simple from other forms of angina with approximate certainty. The bacteriological examination can be effected in from twelve to twenty-four hours. The presence of the diphtheria bacillus is not absolute proof of the case being one of diphtheria, nor does its absence supply a similar proof of the absence of diphtheria. But these two statements apply only to exceptional cases. The author concludes that a satisfactory bacteriological examination is mostly impossible in private practice. There should be central stations at which such examination can be made. This bacteriological examination is, from the scientific, practical, and statistical point of view, of the greatest importance. The results of the examination must not always be waited for before the requisite treatment and isolation are adopted. Local treatment with Loeffler's iron-toluol preparation should be practised; a specimen of the exudation can be obtained before the application. Unfortunately, the naso-pharynx and larynx cannot always be treated in this way without special experience. Gargling should be used after the application, to prevent the burning. The specific antitoxin treatment is of use when the process is not limited to the site of invasion, and when local treatment is impossible. Its drawbacks are its uselessness (1) in septic secondary infections; and (2) in diphtheria of the bronchi; and (3) certain possible after-effects. Local treatment should never be neglected. The author also speaks of the bacteriological examination in those convalescent from diphtheria, and in nurses, etc., as well as of the preventive inoculation.

Cycling causes great rapidity of the heart's action, according to Sir B. W. Richardson. He says a rider while on the wheel invariably has a rapid pulse, not infrequently from one hundred and fifty to two hundred per minute.

Training Schools for Children's Nurses are to be established in connection with the Women's Lyceums, in Paris. Those who go through the training will receive a diploma, and be certificated as safe keepers of child-life.

MEDICAL RECORD:

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THE NEED OF A LATIN REVIVAL.

CORRESPONDENCE in *The British Medical Journal* reveals an urgent need on the part of the medical profession for the purification of what Latin it already possesses, and a considerable desire to extend its use.

Taking up the latter point first, we find that Sir Edward Sieveking suggests the use by medical students and physicians of the colloquies of Erasmus. The Latin is good and easy, the subjects interesting, and the medical man might purify his latinity and relax his mind at the same time by the use of this work. There are already two magazines in Latin published for international use. Last year a Latin letter was sent to the International Medical Congress at Rome, signed by nearly a thousand medical men in India, recommending the establishment of a Latin international journal for medical and sanitary subjects. So much for this subject; as to the present condition of medical Latin, a correspondent who signs himself "Philistine" speaks words of weight and verity. "I think," he says, "the revival of Latin is a cause which would have pleased Cato but not the gods. For medical men Latin is not only dead but decomposed. Scholarship stops the nose at the putrid remnants of a so-called classical education which strew the pages of modern medical literature. To give only a few of the commoner barbarisms which can be culled from certain medical journals almost any week; we have *labiæ* intended for the plural of labium, *gummæ* as the plural of gumma, *fenestrum* for fenestra, *materia medica* intended as a neuter plural, *bronchiæ* as a plus-quam plural of bronchia, which is itself a plural; *pubis* for pubes. *Spicula*, *sputa*, and *scybala* are as often as not treated as singular forms—as indeed they are, in a different sense, to the grammarian's eye. Medicines are said to be given *per orem* in defiance of the rule as to the accusative of neuter nouns. Then there are the nouns of the fourth declension, like *meatus*, *processus*, *fœtus*, etc., to which a plural in *i* is assigned regardless of grammar. The whole tribe of Greek-derived nouns in *—ma* is treated as belonging to the first declension and the feminine gender. The dermatologists are, perhaps, the worst offenders in this particular point, and their papers swarm with such monstrosities as eczema *seborrhoica*, erythema *exudativa*, etc.; but they do not stand alone. Your gynæcologist not infrequently writes about what he calls deciduoma *maligna*, and many syphilographers take *condyloma* to be a feminine substantive. 'The vulva were inflamed,' which I noticed in a contemporary a week or two ago, may pass as a misprint, but I think it not unlikely that the author had written 'the *vulvæ*,' for this is a form which, for some inscrutable reason, is greatly affected by the average medical writer. On the other hand, 'memoranda' is often treated as a noun singular, and quite recently in a paper by a F.R.S. and F.R.C.P., I noticed 'phenomena' dealt with in a similar *supra grammaticam* fashion. But for the full bloom of barbarism the curious inquirer may be referred to the Pharmacopœia of a certain hospital for women, which might have been published as a 'Pill to Purge Melancholy' in scholars. Nor are we in this country much worse than our neighbors, for Latin of a kind that might make Priscian turn in his grave may be found in French, Italian, and Spanish medical books; and German writers on medicine add to the uncouthness of Latin style for which their scholars are notorious, a disregard of the elementary decencies of grammar which is all their own. The greatest fertility in the production of barbarism, however, is seen in the writings of our trans-Atlantic cousins, as might be expected from the superior inventiveness of that ingenious people."

We deprecate the invidious criticisms of the last paragraph. "Philistine" does not read American medical journals, or he would find their Latinity relatively pure. However, the general defects in classical learning, as shown in medical literature of to-day, must be admitted. It will not take a great deal of scholarship to correct them. And as Latin has become attached to medical literature and nomenclature beyond possibility of removal or divulsion, we suggest that medical students be drilled a little in the ancient tongue. A slighter knowledge of bones and a better pronunciation would add to the effectiveness of the profession and its repute before the world.

GOVERNMENTAL INSPECTION.

THE recent disclosures made by the New York *World* merit more than a passing notice, as the facts are admitted by the officers of the Bureau of Animal Industry, United States Department of Agriculture, point directly to a corrupt and also to incompetent inspection. Dr. Rose admits that he gave a certificate of health to a flock of sheep which he had reported had the scab disease, and that they were shipped to a foreign port by direct order of the late Secretary of Agriculture, after their true condition had been reported to headquarters at Washington. It is also claimed that this instance was but one of many of a fraudulent inspection of meat and cattle which has been going on for years in the interest of the leading packing-houses.

This is a serious matter, for it throws discredit on the whole system of government meat inspection, and has doubtless, in a great measure, determined the course of foreign nations in rejecting the introduction of cattle and dressed meats from the United States. For several years Germany and France have employed experts to keep a close watch on the inspection methods of the United States Government, and were doubtless fully

aware of the fraudulent practices carried on, without much attempt at concealment.

Secondly, it is now admitted by the Government, that all the hogs which were found infected with trichinæ, during the export inspected, amounting to two per cent. of the whole number inspected, have been thrown on the home market for consumption, instead of being boiled down in the rendering tank, as represented by the inspectors in charge.

Thirdly, it has been proved that the so-called inter-State inspection of all hogs used in the home trade has been a fraud from the word go. In large packing-houses killing as many as five thousand hogs in one day, only two inspectors were employed, whereas fifty could hardly do the work if properly done. In the face of these facts all the uninspected pork from these establishments was stamped by the Government inspector as wholesome and free from disease. No attempt was made to examine microscopically this pork, although trichinæ was the only parasite or source of disease to be feared.

It appears time that the State and City Boards of Health should take up this question of pork inspection, as it is admitted that a total of two per cent. of hogs infected with trichinæ are now found on Government inspection. The cost of inspection by the Department of Agriculture amounts to two cents per hog; but there is a great probability that a cost of one cent per hog would cover the cost of a microscopical inspection, which should be paid by those employed in placing this meat on the market.

THE COMPLICATIONS OF VACCINATION.

In the *Journal of Cutaneous and Genito-Urinary Diseases* for April, 1895, Dr. Louis Frank, of Milwaukee, Wis., gives us a very complete study of the complications of vaccination. A study of ordinary anti-vaccination literature would lead one to think that the only complications of this procedure were leprosy, syphilis, and paralysis. Dr. Frank includes leprosy and syphilis, but they occupy a most modest place in the list of complications, as established by careful and unbiassed observers.

Dr. Frank uses the classification which has been adopted by Dr. Morris and others, of the complications due to vaccination, viz.: 1, Those due to the virus itself; 2, those due to mixed inoculation, and finally, 3, the sequelæ of vaccination. Among the complications which are due to the vaccine virus itself we count nine different forms of eruptions. These include dermatitis, vaccina herpetica, erythema, and urticaria.

Dr. Frank gives a description of these various forms of skin eruptions and shows how they may be distinguished. None of them is particularly serious.

Of the complications due to mixed inoculation we find that the most common is erysipelas, while the most serious and most rare are tuberculosis, leprosy, and syphilis. Of course the anti-vaccinists make much noise over these particular affections, and consider them to be relatively frequent. Dr. Frank says that in the polemical writings of anti-vaccinists such diseases as scrofula, tuberculosis, diarrhœa, and other common causes of infantile mortality are alleged to have increased owing to vaccination. He says, however, that there is little or no reason in theory or experience to suspect that tuberculous or scrofulous infection is ever communicated by vaccination. As regards tuberculosis, only three cases are on record, and these are of doubtful value. With regard to leprosy, he says that it is not to be denied that such inoculation may be possible, but it may be said that we have at present no clear and indisputable facts proving that leprosy has been spread by means of vaccination. With regard to syphilis Dr. Frank thinks that there can be no doubt of the fact that syphilis has been communicated by vaccination, and he discusses at some length the method by which this occurs. He believes it to be clearly established that in most of the well-authenticated cases on record the conveyance of syphilis was effected by the transference of the poison from the vaccinee to the vaccinifer or from one vaccinee to the other. Some have claimed that there can be no inoculation of syphilis unless there is some of the blood of the patient mixed with the lymph. The question, however, of the transference of syphilis through the vaccine lymph becomes almost an academical one, when we consider the fact that syphilis can never be produced by vaccination with animal lymph. Numerous experiments have proved positively that syphilis is never conveyed into the genus bovinum, consequently it cannot affect the lymph from the animals of this class.

Dr. Frank has given a very interesting summary of the complications of vaccination. He shows in a general way that they are due to the use of human lymph, or to the use of impure lymph, or to imperfect methods of vaccination. A perusal of his article would convince one that while vaccination may be attended with one or more of the twenty-two complications which he analyzes, yet if pure animal lymph and vaccine are used with care none of these complications need arise. Certainly it is absolutely possible to prevent all of the serious ones.

SERO-THERAPY OF CANCER.

The reputed success of antitoxin in the treatment of diphtheria and of tetanus has led to innumerable experiments in the serum treatment of other supposed infectious diseases. One of these experiments which, if all sources of error could be eliminated, would be most significant in its bearing upon the as yet unknown pathogenesis of an important disease, was made by Richet and Hericourt in the treatment of cancer. Two cases were experimented upon, and the results were reported to the Academy of Sciences on April 29th. On February 9th they took an osteosarcoma of the leg which had just been removed by amputation, triturated it, macerated it in water, and then injected the filtered liquid into two dogs and a sheep. There was no reaction following these injections. On the fifth, seventh, and fifteenth days blood was drawn from the animals to obtain an anti-cancerous serum.

The first case treated was that of a woman who had been operated upon in October, 1894, for the removal of a fibrosarcoma involving three of the ribs. In February, 1895, there was a return of the growth, which, at

the time of the serum experiment, was the size of a small orange. The treatment was begun March 12th, injection of 3 c.c. being made each day for forty days into the cellular tissue surrounding the tumor. On March 25th it could be plainly seen that the neoplasm was diminishing in size, and this decrease became more and more rapid until finally the tumor had completely disappeared. At the same time the patient's health was greatly improved, and she increased steadily in weight.

The second case was one that had been diagnosed as an inoperable cancer of the stomach. An injection of 4 c.c. of serum was made on April 6th, and from that date to the 24th a total amount of 60 c.c. was injected. An improvement in health was soon apparent, and a diminution in size of the tumor was evident by the fourth day of the injection. At the time the report was made no real tumor could be made out, but merely a sort of boggy feeling, indistinct and difficult to define strictly.

The diagnosis seems to have been fairly certain in the first case, and very probable in the second. Whether the results obtained were due to the action of an anti-sarcomatous serum, to that of simple canine or ovine serum independent of any antitoxin properties, to a change in local nutrition induced by the trauma, or whether they were merely coincident will probably be learned from later and more extensive experiments.

THE REPORT OF THE BRITISH COMMISSION ON TUBERCULOSIS.

FIVE years ago the British Parliament appointed a commission to investigate the subject of food in its relation to tuberculosis. After a long and careful investigation of this subject the commission has made its report. The members of the commission include Professor G. T. Brown and Professor Burden Sanderson, but the special expert work was done largely by Professor John McFadyan, Dr. Sydney Martin, and Dr. Sims Woodhead.

The first point investigated was the effect of feeding healthy animals with meat and milk from tuberculous animals, and this investigation was carried on by Drs. Martin and Woodhead. The flesh from tuberculous animals, freed from any obvious masses of tubercle, and milk taken from tuberculous cows, were fed to pigs, guinea-pigs, and rabbits. Thirty-six per cent. of the pigs, sixteen per cent. of the guinea-pigs, and fifteen per cent. of the rabbits became tuberculous. Control animals, submitted to the same conditions of life, aside from the feeding of tuberculous food, did not become tuberculous. Experiments were made also by feeding animals with pure tuberculous matter obtained from bovine animals and from man. Each animal received but a single dose. Nearly all of nineteen animals subjected to this dosage became tuberculous. It was thus shown that the use of meat from tuberculous animals resulted in producing tuberculosis in healthy animals, and that the administration of even a single dose of pure tuberculous matter was quite sure to lead to tuberculosis.

Dr. Martin made a series of investigations in order to determine what part of the tuberculous animal was most dangerous for use as a food, and he was led to the conclusion that the muscle of an infected cow contains very little tuberculous matter, and that its consumption rarely produced tuberculosis. Even the direct inoculation of the flesh of a tuberculous cow into a healthy animal did not produce any serious results. The only danger likely to occur, therefore, in using meat from a tuberculous cow would lie in the fact that some glandular tissue might be left in the affected parts of the meat. Another danger, according to Dr. Martin, is that the butcher in cutting away tuberculous matter may use the knife again on healthy flesh, or the meat may become smeared with the caseous matter from tuberculous glands. The commissioners believe that if sufficient discrimination and care are exerted in taking meat from tuberculous cattle a great deal of it might be consumed without danger by the community.

A series of experiments was made to determine the danger to man from the milk of tuberculous cows. These experiments showed, first, that tuberculous cows with healthy udders give milk in which no tubercular bacilli can be found, and that milk from these cows inoculated into test animals does not lead to tuberculous disease. Tuberculous cows with udder disease do give milk which contains bacilli, and this milk inoculated into test animals will lead to tuberculosis.

Both Dr. Martin and Dr. Woodhead comment on the very virulent nature of milk derived from cows with tuberculous udders, and they add that butter, buttermilk, and skimmed milk obtained from the same sources also contain infective matter that is actively injurious. They conclude that no tuberculous animal of any kind should be allowed to be in a dairy herd. While the commissioners think that there is no great danger from tuberculous cows, provided the tubercle has not reached the udder, yet they strongly advise against the use of milk from any diseased animals, no matter how little infected, for the reason that the tuberculosis is so apt to spread suddenly to the udder.

Experiments were made by Dr. Woodhead upon the influence of cooking tuberculous meat and milk. Dr. Woodhead's conclusion is that ordinary roasting of tuberculous meat kills the infectious material, if any exists, upon the outer surface of the meat, but cannot be relied upon in the slightest degree to render innocuous the bacilli in the centre of the meat if any exist, especially when the joints are more than three or four pounds in weight. The most trustworthy method of cooking meat is by boiling, next comes roasting in an oven, and last, roasting before a fire. The commission seem to be agreed that boiling milk at once kills the most deadly tuberculous material. The commissioners therefore advocate in all suspected cases the sterilization of milk by raising it to boiling temperature.

The report of the commissioners does not speak very definitely upon the value of tuberculin injections in the diagnosis of tuberculosis in cattle. Dr. McFadyan states that it had led him into erroneous conclusions in about one-third of the cases (twenty-four out of seventy-five animals). The professor, however, in spite of this, adds that he has no hesitation in saying that, taking full account of its imperfection, the test is the most valuable means of detecting tuberculosis that we possess, and the commissioners add that they under-

stand that since the time of Dr. Martin's experiments the method of using tuberculin as a test has been much improved, and that it is now regarded as more trustworthy for diagnosis.

The report of the commission, of which we have above given some outline, contains, as will be seen, many facts of practical importance. The commissioners, however, owing to the long time consumed in their work, really only presented in a somewhat systematic form facts which had all individually come before the public previous to the appearance of this report.

A PROPOSED INTERNATIONAL CONGRESS OF SURGEONS.

At the recent meeting of the Congress of German Surgeons the President, Professor Gussenbauer, announced that a number of American surgeons had proposed the organization of an International Congress of Surgeons which should meet every five years, at different localities. The German Society promised its adhesion to this plan. *Le Progrès Médical*, in commenting upon it, states that the idea is an excellent one, but it fears that French surgeons will not look upon the plan with much favor, because it had its initiative in America.

We quite believe that this is possible, though it is not very creditable to the liberality of the French mind. There is no reason why a good thing should not be recognized just because of its humble source. France has had to learn much surgery from other countries. It had even to admit the originality of Sims, and it has taken other things from the despised *outre mer*. If French surgery had been more willing to learn from those living outside the sacred outlines of France, it would not be so much behind the age to-day.

News of the Week.

New York Hospital.—Dr. H. P. Loomis has been appointed Visiting Physician to the New York Hospital.

Newton Whitehead, the "specialist in female complaints," who is well known to all New York physicians through his practice of sending out cards every month, has just been tried on the charge of committing abortion. The jury disagreed, standing ten to two for conviction. The facts in his case will be now again presented to the Grand Jury by Mr. Davis, Assistant District Attorney, who will ask for another indictment containing the new legal point that this should be regarded as the second offence, inasmuch as Whitehead was convicted on June 3, 1873, of the crime of using the mails for the purpose of inducing others to commit abortion, and was sentenced on November 3d of the same year to pay a fine of $1,000 and to a term of two years in the Kings County Penitentiary.

The New Jersey State Medical Society will hold its one hundred and twenty-ninth annual meeting, at Cape May, on Tuesday and Wednesday, June 25 and 26, 1895.

The Perennial Value of a Diploma.—An absurd typographical error in an editorial with this title in our last issue might lead some unthinking reader to imagine that our esteemed Philadelphia contemporary lent its columns to advertisements of diplomas for sale. The "for sale" notice should have read, instead of address *Medical News* office, address Med., *News* office, the *News* in question being a Buffalo daily newspaper. It seems hardly necessary to make such an explanation, yet to restrain the gibes of the giddy and the foolish it must be done. We beg our valued contemporary's pardon for the error, and hope it has called forth no rebukes from well-meaning friends.

A Medical Athlete.—Our British contemporaries are all writing editorials in commendation and praise of the remarkable athletic performance of Dr. W. G. Grace. Mr. Grace is a famous cricketer, who is now in his forty-seventh year. At a recent cricket match he made the remarkable score of 288. This involves, of course, a great deal of physical strength, skill, and endurance, but we know of a good many American doctors forty-seven years old who, we are sure, could play baseball better than Mr. Grace.

The Contribution of Medical Students to a City's Health.—In a speech made at a dinner in Edinburgh recently by Dr. Clouston the statement was made that about $750,000 came to Edinburgh every year from medical students, and that the process of making doctors was therefore of much pecuniary benefit to the city. On the other hand, medical labors and discoveries had brought about a decrease in the death-rate of seven per cent. during the last twenty-five years, with a corresponding decrease in sickness. Therefore in this way also the medical men had also contributed to the health as well as the happiness of the city.

Dr. John H. McCollom is to be appointed Superintendent of the new Boston Hospital for Contagious Diseases attached to the City Hospital. Dr. McCollom is now Bacteriologist to the Board of Health.

Doctors and Incurables.—*Reynolds's Newspaper* comes out with the declaration that physicians arrange with the friends of patients suffering from an incurable disease for the death of such patients. This is a curious charge which some of our English *confrères* seem to have taken seriously. For our part, it seems to us as if nothing could be more silly or more remote from the truth.

The Chemical Composition of Oysters.—Mons. Chetin makes a report to the Académie de Médicine upon the chemical richness of oysters in bromine, iodine, fluorine, and in phosphorus. Portuguese oysters contain a gramme of organic phosphate to the dozen. Ordinary European oysters contain one-third less. This statement in regard to the phosphatic richness of oysters will be a comfort to many oyster lovers, and may in a measure offset the unpleasant reports about the capacity of the oyster for nourishing tubercle bacilli.

Monument to Charcot.—At a meeting in Paris of the committee appointed to secure funds for the purpose of erecting a monument to the late Dr. Charcot, the treasurer, Dr. Masson, stated that up to May 17th the sum of money raised was 40,000 francs. Of this

sum he stated that nearly one-half came from outside of France. The French physicians seem a trifle humiliated at the fact that foreigners have given almost as much money as their own countrymen. The committee have issued another appeal to French physicians.

The Congress of the Obstetric Society of France held a meeting in April last under the presidency of M. Gueniout. Dr. Gaulard discussed the subject of scarlet fever and the albuminuria of pregnancy. Other papers were read upon "The Causes of Puerperal Eclampsia," "The Grip in the Puerperal State," and upon "Abnormal Forms of Toxæmia in Pregnancy." M. Queirel noted that in an epidemic of influenza thirty-five puerperal women had been affected. In all cases the influenza took the pulmonary form. There were no deaths from the disease nor any serious complications produced.

The French Society of Ophthalmology held its thirteenth session in Paris, May 6th to May 9th. M. De Wecker made a report upon the use of large subconjunctival injections. He said that the injection of a drop of a solution of sublimate, one or two per cent. in strength, had no antiseptic effect. He injected an entire syringeful of solution of sublimate, 1 to 2,000, and in ulcers of the cornea his results had been very surprising. The injections were good, he said, in infectious ulcers, but of no use in other forms.

Dr. John F. Hill, of Augusta, Me., will, it is said, be the Republican candidate for governor of the State of Maine. Maine has already had one medical man as governor, and he ruled the State well. We wish Dr. Hill success.

Dr. Harold C. Ernst has been appointed Professor of Bacteriology in the Harvard Medical School.

Dr. Theobald Smith, formerly chief of the Division of Animal Pathology in the United States Department of Agriculture, has been appointed bacteriologist of the Massachusetts State Board of Health and Professor of Applied Zoölogy in Harvard.

The Legislature of the State of Rhode Island has recently passed an act for the regulation of the practice of medicine.

A New Medical Journal.—The *Canadian Medical Review* is the title of a new medical monthly published in Toronto, and edited by Dr. W. H. B. Aikins.

Dr. Maillot.—A monument to the memory of the late Dr. Maillot is to be erected, and already the sum of ten thousand francs has been collected for it.

Erratum.—In the report of the discussion of Dr. Rachford's paper by Dr. Kinnicutt, "tetany" should be substituted for "tetanus," as it stands in the MEDICAL RECORD.

Treatment by Corporation.—*The Munich Medical Weekly* says that a new danger to the welfare of medical practitioners has appeared in the shape of medical corporations which advertise to give treatment at extremely low rates. Under the advertising title of Medical Institutes, or Science Institutes, or some similar and perhaps more striking "scare-head," these organizations announce to the public that they are prepared to treat all kinds of diseases at sums much below the market rates. Naturally they also announce that they have associated with them experienced specialists with "hospital training," and a long list of titles after their names. In Munich we are told that these institutes attract people that are well-to-do and able to pay reputable medical men. Such institutions we believe exist in this city also, but we think do not form a very serious enemy to the ordinary practitioner. Most sensible people would hesitate to trust themselves to the care of an institute in which they will come in contact with medical men who can hardly be honest and who are not personally interested in the welfare of the patient.

Dr. J. Marshall Hawkes, of this city, died on Sunday, May 26, 1895, of osteitis of the mastoid bone, following an acute attack of purulent middle ear inflammation. He was born in Gorham, Mass., in October, 1847. He served a year and a half in the late war in the Fourth Maine Battery; later he entered Dartmouth College, New Hampshire, where he first began the study of medicine. He was graduated from the College of Physicians and Surgeons in this city in 1890.

The Surgery of the Present Day is distinguishing itself from the surgery of the past few decades, not so much in the perfecting of the mechanical art as in the development of surgical pathology; and the surgeon of the future, if he would embellish himself with something extrinsic to his art, will choose to study the histogenesis of sarcoma in preference to the branches of the external circumflex division of the profunda femoris artery. Surgical pathology is teaching the surgeon that carcinoma is not a lump to cut off, but that it is an insidious, spreading disease, and that it more closely resembles erysipelas than it resembles a wart. With the growth of surgical pathology in this country, American surgery is in less danger of sustaining the set-back which it received at Washington a few years ago, when one of its champions announced before a great meeting of surgeons that he opened the axilla in breast cases only when he could feel through the skin that the glands were enlarged. It is one of the functions of such works as that which lies before us to encourage in the surgeon the use of the "microscopic eye" as an aid to the finger.—*Annals of Surgery.*

Payment for Information Regarding Medical Examiners.—The *Texas Medical Journal* for April, 1895, in speaking of the insurance controversy, makes the following comments: "The *Columbus Medical Journal* has taken up the position of the *Texas Medical Journal*, the *Texas Sanitarian*, and the *California Southern Practitioner* as to the insurance companies paying physicians for information when referred to by applicants for position as medical examiner, and the editor and Medical Director Curtis, of the Equitable, are engaged in a bitter controversy. The *Columbus Medical Journal* is right. It has ceased to be a question here, and the Austin physicians send in a bill for $5 every time a request is made for information about an applicant, and for our part we always get our money." The *Texas Medical Journal* adds that the Bankers' Alliance of Los Angeles, Cal., has adopted the plan of paying for services rendered.

The Index Medicus has been discontinued.

Society Reports.

ASSOCIATION OF AMERICAN PHYSICIANS.

Tenth Annual Meeting, held at the Army Medical Museum and Library in Washington, D. C., May 30 and 31, 1895.

(Continued from page 721.)

SECOND DAY, FRIDAY, MAY 31ST.

Diphtheria Antitoxin.—The discussion was opened by DR. WILLIAM H. WELCH, of Baltimore. The decision as to the good of this remedy is in the hands of the clinicians and not the bacteriologists, as many suppose. There are various theories as to the action of antitoxin. Gunzemann holds that its use does not rest on a scientific basis. Of course it must be admitted that the Klebs-Loeffler bacillus is the cause of diphtheria. His arguments would hold equally well against other diseases. The results of experiments are the most striking, but we know more of tetanus antitoxin. We cannot always argue from animals to human beings in our experiments. The antitoxin of tetanus has a cumulative action that the diphtheria has not, and often the diphtheria antitoxin is used too late to help. We do not know how it acts, but we do know its therapeutic results, and this is also true of other diseases. This should not prevent us from using it. There are two prominent theories, the chemical and the vital theory; that is, the antitoxin either acts as an antidote to the toxin and is a chemical change, or it produces some change in the cells to make them immune. The vital theory seems to have the most followers. This method of treatment does not prevent post-diphtheritic paralyses. They are just as frequent whether the antitoxin be used or not.

This paralysis depends upon the action of the toxins, and is against the chemical and speaks for the vital theory. There is a quantitative relation between the toxin and the antitoxin. There is no means of knowing how much toxin is in the blood, and how much antitoxin should be given. We may give too little. Whether it exerts a direct specific action on the membrane is hard to say. Some believe it does, and others do not believe this. In some cases it may, and in others not. The benefits of this treatment are very doubtful when the antitoxin is introduced after the third day. This has been shown in the case of animals, and Behring holds to this point. We are not to expect brilliant results unless we know it is diphtheria, and the specific bacillus must have been demonstrated. Thus we may include cases not found before. It is in healthy throats, mild anginas. Now if these very mild cases not to be recognized clinically are to be put down as diphtheria, the prognosis will be more favorable and this will influence our statistics. On the other hand, there are certain cases of pseudo-membranous inflammation which are like diphtheria, but which are not due to the Klebs-Loeffler bacillus. All these cases are put down as diphtheria, and this also affects the statistics. As regards the prognosis of these cases which look like diphtheria, and which are not, statistics differ. And here is why a large number of statistics are needed from State boards of health and hospitals, which will give us an idea on the use of this remedy. Again, take, for instance, the manner of examining throats and cultures from the throats. These examinations are made in a routine manner, hurriedly, by inexperienced men, and the difficulty of finding the Klebs-Loeffler bacillus, and we may say that thirty to forty per cent. are not recognized, while others say five to ten per cent. Then again in our experiments we must remember that the diphtheria of animals differs from the diphtheria of human beings. In so many cases we have not a pure culture of the specific bacillus in the throat, but a coccus is there, besides the streptococcus of septicæmia, the pneumococcus. Then the mechanical obstruction in the larynx must be considered. These help to make a case unfavorable. As to the direct effects, they are various. It is probably manifest but not different from those that may occur in the natural cure of the disease. Indeed the cure is a natural cure. The natural cure is by antitoxin, and this method is only a hastening of this cure. The statistical results are at the present time elaborate. He has a small number. In France, from June to December, 1894, there were twenty-seven hundred cases, with sixteen per cent. mortality. In Austria, outside of Vienna, a large number of cases, with forty per cent. mortality. Other observers have collected statistics to show that the mortality had been reduced from fifty and forty per cent. to ten per cent. after the use of the antitoxin. Now what are the conclusions to be drawn from these statistics? There are three classes of opinions caused by them. According to one class they prove nothing, to another they leave the matter entirely in doubt, neither for nor against it. Others believe the statistics prove nothing or everything. They include a large number of light cases. Mild cases are called diphtheria. The agitation of this subject in the public press leads the patient to send his children to be examined, and thus if a case is discovered the treatment is begun earlier. These cases ought to be classified so that we can tell the number of each kind. Then there is the question of the effect of the treatment on the false membrane and the complicated cases in which the larynx and pharynx are involved. These are all arguments in favor of this treatment. But it is argued against this that the present attacks are milder and the mortality is lower than in ordinary seasons. According to Bollinger, the mortality is higher in Vienna and lower in Berlin. It is claimed that treatment is begun early according to the directions of the boards of health, and when it is begun on the first or second day the chances are good, and the case does not end fatally. In some cases the antitoxin has no effect at all, and the case dies or does not improve. In this case the cells fail to respond for some unknown reason, and the antitoxin fails. There are very few cases of this kind where no reaction at all is obtained. Then there may be other conditions of the patient which may affect the action of the serum. But whatever we may say, it certainly looks like a genuine cure. Of course there are improvements yet to be made. Some ideas are also to be gleaned from the general opinions and the clinical impressions of such men as Baginsky, Widerhofer, and others, as to how they are personally impressed by this treatment, and what they learn at the bedside. This is a new kind of argument. Kassowitz is opposed to this treatment. He made two hundred autopsies and claimed that as much could be done with the bichloride of mercury as with antitoxin. There are some injurious effects from antitoxin. There is some evidence that it causes albuminuria, and this calls attention to the careful examination of the urine in diphtheria. Albumin has been found in from eighty-three to seventy-six per cent. of all cases treated. Arguments as to the injurious effects of the serum should be based on the fact whether the injections are subcutaneous or intravenous. Then there are the skin eruptions, etc., which are occasional ill effects of the serum. Still these are not permanent, and they cannot outweigh the benefits. On the whole there seem to be much more advantages than disadvantages in using this treatment, which even the most sceptical should admit. All agree that the best effects are obtained early in the disease. Whatever injurious effects are felt are not permanent, and they cannot compare with the benefits. There are certain cases which cannot respond to treatment. It will take a long time before final judgment can be obtained.

Preparation of Antitoxin, by DR. H. C. ERNST, of

Boston, was read by title, owing to the absence of the author.

Dr. Mason, of Boston, reported on a number of cases treated in the Boston City Hospital. He quoted a large amount of statistics showing the reduction in mortality since the use of antitoxin. There are many factors to be considered in this reduction of mortality. There have recently been appointed a number of school inspectors who have examined the throats and noses of the schoolc-hildren, and in many cases diphtheria has been discovered in its early stages and has been treated successfully. The moral effects in the wards, too, are very noticeable. There are fewer very ill children, the attendants are not afraid, and the whole place has a more cheerful appearance, which has a moral effect on all those near by, and may in a small way influence the mortality. The number of light cases may be greater than before, but usually in hospital the cases a-e not seen before the third day at least, and here the chances for cure are much smaller. He was inclined to speak favorably of the treatment, although on the whole it was perhaps a little early to give a decided opinion.

Dr. A. Jacobi was inclined to give a favorable opinion, but the small numbers are not sufficient from which to draw deductions. We do not want hundreds but thousands of cases, in different cities. Otherwise there have been seasons when other treatment has been just as efficacious as this. In one set of 40 cases, of which he knew, 39 got well, and in some years he found that the mercury treatment did as well as the antitoxin does now, and some have preferred to keep up with the bichloride treatment. The bichloride treatment is very useful in paralysis, and this has to be taken into account. He used the bichloride and other treatment even when he used the antitoxin. This may not be scientific, but he wished to save as many patients as possible. As to albuminuria, it is a very prominent symptom, but it had been found not to occur as frequently in patients who had been treated with antitoxin as with the others. The nephrites are not so marked after antitoxin. Baginsky has seen a large number of cases, and he says the number of operations is less since the use of antitoxin. He wished to place himself on record as a heretic. The clinicians are too much in the hands of the bacteriologists. It was well known years ago that diphtheria was caused by a bacillus. The Klebs-Loeffler bacillus is rarely found alone in the membrane, but with the streptococcus, and we cannot say whether the disease is a poison of the streptococcus or the Klebs-Loeffler bacillus. We do not know what the toxin or toxins of diphtheria are, and we have mild cases and severe cases, and one kind can come from the other. He was not prepared to accept the postulate that the diagnosis rested on the discovery of an organism, and it is only the genuine Klebs-Loeffler cases that are amenable to the antitoxin treatment.

Dr. John S. Billings, of Washington, spoke of the use of statistics, and said that the question of the utility of statistics rested only on a large number of cases continued over a long space of time. At present the statistics on this question were not sufficient to give absolute and positive results. It is difficult to compare present finding with past, and it would be bad for hygiene if reliance were placed on antitoxin alone. There are various things to be considered, and the mortality in different localities is an important question.

Dr. Mason, of Boston, said it was impossible to give all the points to which Dr. Billings referred. The comparison can only be made with a series of cases from the corresponding seasons of another year. Also the method of treatment in vogue at any particular time must also be taken into account.

Dr. A. C. Abbott, of Philadelphia, said that clinicians depended very much on the bacteriologists for help. Until the bacteriologist found out the cause of many diseases the etiology of such diseases as diphtheria, tuberculosis, etc., was in a very chaotic state, the distinction was uncertain and the treatment unreliable. The clinicians can distinguish mild from severe cases, but the mild cases are often not recognized at all until the bacteriologist adds his help. The bacteriologist can tell which case is diphtheria and which is not, and that with certainty.

Dr. George M. Sternberg, Surgeon-General U. S. A., said there was much scepticism on the use of the lower animals for experimentation and comparison, because of the partial failure of tuberculin.

Dr. F. H. Williams, of Boston, had used antitoxin since last September, and he noted marked improvement in many of the severe cases where it was used early enough in the first twenty-four to forty-eight hours after the administration of the remedy. In the first day the membrane loosens rapidly and improvement is marked. He related a case. Now and then there are cases in which the convalescence is less rapid than without the antitoxin, and he has noticed this in a few cases. He showed the syringe which he used. It is made of glass, with asbestos filling, and may be sterilized by boiling, without injury. A rubber tube between the syringe and the needle is flexible to prevent the needle from being broken off in a restless child. All things being equal the prognosis is more certain when there are no bacteria present.

Dr. William Osler, of Baltimore, reported a number of cases seen in the hospital in which improvement was nearly always marked. In four cases the Klebs-Loeffler bacillus was absent.

Purpura Hæmorrhagica Rheumatica.—Dr. D. W. Prentiss, of Washington, D. C., reported a case of this trouble, also called peliosis rheumatica and morbus maculosus Werlholfii. He showed this case in 1890 when the boy was thirteen years of age. Now a nephritis developed after the hemorrhages. The eyesight is gradually failing, and there are some degenerative changes in the yellow spot. He still follows his trade of a carpenter. An analysis of the urine showed it to be clear, of an amber color, specific gravity 1.005, amount about two quarts, acid, twenty-five per cent. of albumin; urea is one-third of one per cent., which is remarkably low. The hypobromite method was used.

Dr. William Osler said it was doubtful whether all these cases should be classed as purpura hemorrhagica. The first proper classification was made by Henoch, of Berlin. He spoke first of the recurrences; they recur year by year. Second, there are marked gastro-intestinal crises, which may occur without any other symptom. Third, arthritis, which is not always present but may occur, is one. Fourth, the hemorrhages which start under the skin, erythema multiforme, simple œdema, purpura, hemorrhages from the mucous surfaces with this in some cases of acute nephritis. He reported one fatal case. The literature of this disease is very sparse in English, but it is to be found in Henoch's "Festschrift."

Dr. Charles G. Stockton, of Buffalo, referred to a case with hemorrhages from the retina and for the past five years severe gastric crises. There was also anæmia, but no albuminuria.

Dr. Osler said he had notes of eight cases. He recalled no case of chronic nephritis. In Henoch's "Festschrift" there is no American and but one English author mentioned. The disease is not uncommon.

Dr. Prentiss asked for suggestions for the treatment. One physician had proposed phosphorus, and he had used it with decided benefit.

A Case of Madura Foot (Mycetoma Pedis).—This was a case reported by Dr. J. G. Adami, of Montreal. It was a man who had lived all his life in America, and it was probably the first undoubted case reported on this continent. It began as a small spot on the foot and gradually spread, and a microscopical examination

of the part of the tissue in the affected foot showed it to be much like actinomycosis. The limb was amputated.

Gonorrhœal Rheumatism—Clinical Observations.—This was a report of several cases by Dr. William P. Northrup, of New York. The first case was a woman who gave birth to a child who, a few days later, had a purulent ophthalmia. The woman shortly after developed an arthritis in one knee and later she had erysipelas. In another case the elbow was affected; in the third case the elbow, the fourth case also the elbow, and the fifth case the knee. It was noticeable that all his cases were those of monoarthritis; there had been no suppuration, in all there was exquisite pain and the joint was exceedingly sensitive; there was little swelling, and recovery without suppuration. He found on looking up the literature that most of the cases were not monoarthritic. In all his cases he found the following characteristics: One joint was affected, either the elbow or knee; the swelling was fusiform, indicating a periarthritic lesion with synovial effusion, probably serous, which was soon absorbed, leaving no adhesions. There was exquisite sensitiveness, with little local heat and little fever. The course and duration of the trouble were usually about four weeks, with recovery with a perfect joint.

Dr. William H. Welch, of Baltimore, said there was no question but that there were distinct types of gonorrhœal arthritis. The exudate formed is serous, and there is no pus and no suppurating causes present. Dr. Halsted had opened a number of joints at the Johns Hopkins Hospital, and found the contents serous. In the early days of surgery we had very little success in this direction, but now we have improvements. At present we have been more successful in cultivating the gonococcus. He showed a culture from an exudate in suppuration of the sheath of a tendon of a muscle. Many denied this disease. There was a diffuse swelling around the ankle-joint, with involvement of the tissues and the sheaths of the tendons with pus. Cover-slips were made from the pus and the diplococcus was found, and they were decolorized by the Gram method. It is interesting to note that Dr. Flexner had found accidentally a good culture medium for this organism; it is an extract made from fœtal pigs. As regards the interpretation of these lesions, it is not possible to say with exactitude that post mortem it is a case of gonorrhœal arthritis. Dr. Halsted has noticed the existence of hemorrhages in these joints, but this alone will not aid us. He related the case of a woman who had been three weeks outside of the hospital and two weeks in. She had a marked endocarditis with chills, irregular temperature, at times running high, petechiæ in the skin. She had anæmia, a presystolic and systolic murmur. The diagnosis was made at the bedside. At the autopsy there were found vegetations on the auricular surface of the mitral valve. There were evidences of thrombosis. There was hypertrophy of the left auricle and right ventricle. The spleen was large and hard. The blood was withdrawn a few days before death and mixed with agar, and a culture was made which showed a large number of whitish-gray cultures, which were the gonococci. Thus during life the gonococcus was present in the blood, causing a general septicæmia and a genuine endocarditis. This is the first instance, as far as he knows, in which the blood was withdrawn and used as a medium in this way.

Dr. F. C. Shattuck, of Boston, said that the general impression is that gonorrhœal synovitis or arthritis was very apt to be monoarticular. That was his impression, and it was the general impression, but when he went to look into the subject he found that out of 64 cases collected by himself, it was monoarticular in 6 only, and the rest were two or more joints. Dr. Welch must have overlooked some investigations of Dr. Hughes, who had made cultures from the blood and gave the disease to a bitch. He had seen two cases of malignant endocarditis following gonorrhœa, and in one that came to autopsy there was found an old endocarditis. He did not know whether the endocarditis was due to gonorrhœa or to the organisms of suppuration. He related several cases bearing on this point.

Dr. Charles Cary, of Buffalo, related two cases, in one of which the young man had the disease in his shoulder and knees. He had a spot of pain on the dorsum of the foot, and it developed into a general phlebitis involving the femoral vein.

Dr. Mason said, at the request of Dr. Northrup he had collected some cases of this trouble in the Boston City Hospital. In his cases the effusion was serous, with one exception. In one case it was explored and pus had lately formed. The great difficulty in collecting these cases about the diagnosis was the small number of autopsies. There were only five post mortems in all these cases. There were two deaths in one hundred and twenty cases. In a few instances the blood-serum was examined, but it was usually sterile.

Dr. J. P. C. Griffith, of Philadelphia, said he had also collected some cases for Dr. Northrup.

Dr. J. G. Adami, of Montreal, mentioned a case that occurred in his laboratory. The fluid was drawn from the joint and no culture could be made, but when mixed with agar the culture was made.

Dr. J. West Roosevelt, of New York, said that out of ten cases which he had seen six had one joint affected; two, two or more joints. In these cases there was no successful result from cultures, but the cases were undoubtedly gonorrhœa. Cases which tend to become chronic are not usually amenable to treatment. One would think that if no gonococcus could be found the case would not be considered gonorrhœal arthritis.

Dr. Osler said that Dr. Flexner had collected out of twenty-seven cases five which were interesting. In four there was a sero-hemorrhagic fluid and in one only was there pus. These statistics should be recorded as a valuable addition to the literature of the subject.

Dr. Northrup said the question came back to the point, is there a characteristic lesion? The various symptoms are not all characteristic. He related another case.

Hyperthermy up to 148° F.—This was a case reported by Dr. A. Jacobi, of New York, of a man whose temperature ran up to this incredible height. He related cases similar to this and referred to hysterical temperatures. This man had taken a great interest in his case and always asked about the notes made from day to day, and he finally ran away from hospital and all traces of him were lost. He came in for an injury.

Dr. William H. Welch said that he failed to mention the well-known case of Galbraith, of Omaha, where the temperature is said to have gone up to 171° F. for a few hours. He is said at first to have considered the case ridiculous and would have nothing to do with it, but later he took a great interest in it. Like Dr. Jacobi he broke thermometer after thermometer, and finally had one especially made. These are mysterious questions, and we do not understand them. It seems to be a physical impossibility to have such a high temperature and live.

Dr. F. C. Shattuck, of Boston, said he had a case which he was keeping to hitch on to some such paper as this. This is the first case in a male. He had a chart where the temperature went up to 117° F. He was sure it was a fraud, but others saw it with him and it kept up there for an hour.

Dr. George Dock, of Ann Arbor, said it would be interesting to know the temperature of the urine, and asked if he had taken it.

Dr. M. H. Fussell, of Philadelphia, reported a malingerer who had a high temperature in one part of the body and a low one in another.

Dr. A. Jacobi said he had neglected to take the temperature of the urine, but had taken the temperature

in the mouth, axilla, popliteal space, rectum, and urethra before many witnesses and with many thermometers.

Some Observations on the Spleen and Marrow in Leukæmia.—This was the subject of a paper by Dr. J. Guitéras, of Philadelphia. It was on the formation of the red blood-cells in the spleen and marrow. He called attention to the peculiar mode of cytogenesis as illustrated in the capsule of the spleen. It is from these organs that erythroblast and cells are formed. He related cases illustrative of his point and gave the post-mortem results.

A Comfortable Way of Using Cold in Fevers.—This was a paper by Dr. F. H. Williams, of Boston. His idea was that, rather than put a patient in a tub, it is easier and safer to wrap the body with ordinary surgical gauze and then sprinkle it with an ordinary syringe. His experiments were carried on with a bottle which he filled with water at 104° F., wrapped it with gauze, and then sprinkling the gauze with very little water he reduced the temperature in half an hour 20° to 30°. Several sprinklings are necessary. Two palm-leaf fans keep the patient cooler and reduce the temperature better than an electric fan. He tried ninety-five per cent. alcohol instead of water, but found it had little advantage over the water and was much more expensive. The shock of cold water is too great for the patient's good, while this gradual sprinkling with water which is at first tepid and later cold gradually brings down the temperature without producing a shock. He liked it better than the sponge-bath.

Goitre in Michigan.—This was the subject of a paper by Dr. George Dock, of Ann Arbor. He referred to the prevalence of goitre in his neighborhood in man and in animals. He had tried to excite some interest in this question, and had corresponded with physicians throughout Michigan and tried to arouse some sentiment about it. The disease is sometimes mild and sometimes severe. It was usually supposed to be caused by the drinking-water, and this was the cause assigned to it in Alpine regions, where there is much melting snow and glacier ice. But there were no such conditions in Michigan.

The water cause has lost ground, and now it is believed that the cause is either a microbe or a toxin. He has seen the disease in horses. It is not usually of large size in his cases. He has tried the dried thyroid treatment and is favorably inclined to it, although his cases are so few that he hesitates to record them.

Dr. Henry M. Hurd, of Baltimore, said that Dr. Clark told him that there was an increase of the disease in the asylum at Kingston, Ontario, after the patient came there.

Dr. Osler said that it was remarkable how the disease had disappeared from regions where it had formerly been prevalent.

Displacements of the Liver.—This was the subject of a paper by Dr. J. E. Graham, of Toronto. After a brief account of the literature he recorded three cases. The liver is movable. It may be floating liver or simply a displacement. The former is more common. More cases occur than are recorded, but it is less frequent than floating kidney. The ligaments are usually strong enough in health to suspend the liver without the abdominal walls. In child-bearing it is lower. He has had three cases. The etiology is pregnancy at full term, pendulous abdomen, hepar pendens, and stretching of the ligaments. There may be also turning and twisting of the suspensory ligaments. Tight-lacing was found to be a probable cause in 6 out of 55 cases. It is not easy to displace the inferior vena cava, but when the liver is lower the vena cava becomes gradually displaced. As to treatment, sixteen cases were relieved by abdominal support, and in one case a bandage could not be worn, as it increased the pain and tenderness. A support is often of benefit. Four operations are reported. Seventy cases in all were recorded.

Carcinoma of the Liver with Cirrhosis.—This was a paper by Dr. M. H. Fussell, of Philadelphia. He reviewed the literature and said there were few references to it in any language and none in English. He reported two cases, in which he considered the relations of the cirrhosis to the cancerous growth, and spoke of the origin of the cancer cells, discussing the question whether they were from the hepatic cells or intertubular ducts.

Milk as a Morbific and Infective Agent.—This was a paper by Dr. S. C. Busey in collaboration with Dr. George M. Kober, of Washington, D. C. It gave tables of 134 epidemics of typhoid fever, 73 scarlet fever, and 27 diphtheria cases due to milk infection. It was an exceedingly elaborate and carefully prepared paper, which showed that milk had been the means of transmitting disease to infants, children, and others, and the various ways by which it was possible for disease to be carried in this way.

Forcible Artificial Respiration—Fell-O'Dwyer's Apparatus—Cases.—This was a paper by Dr. William P. Northrup, of New York, who exhibited an apparatus for forcible respiration, and his paper contained an account of cases in which artificial respiration was maintained four, twelve, and twenty-five hours, in fracture of the skull, with operation, and opium poisoning, etc.

On the Direct Faradization of the Mucous Membranes of the Stomach and the Intestines of Animals, as Dogs, Cats, and Rabbits.—This was the subject of a very exhaustive paper by Dr. S. J. Meltzer, of New York, in which he elicited the fact that, against all clinical expectations, the experiments on animals revealed the surprising but not practical fact that, neither the stomach nor the intestines can be brought to contraction by faradization of their mucous membranes. Neither can the stomach be brought to contraction by application of one of the electrodes on the mucous membrane and the other direct on the muscular sheath of the stomach. The application of one electrode on the intestines and the introduction of the other into the rectum does not produce any contraction of the intestines, but kills the animal sometimes.

AMERICAN GYNECOLOGICAL SOCIETY.

Twentieth Annual Meeting, held in Baltimore, May 28 29, and 30, 1895.

Matthew D. Mann, M.D., of Buffalo, President.

First Day, Tuesday, May 28th.

(Continued from page 723.)

Abdominal Section for Puerperal Septicæmia.—Dr. J. M. Baldy, of Philadelphia, read the paper. The author had had one experience last February, in which, on account of the presence of pus in the abdomen in a case of puerperal septicæmia, he removed the uterus some time after the delivery and the patient recovered. He then discussed the propriety of performing hysterectomy in cases of puerperal septicæmia in general. The indications were clear where pus was present, but there were cases in which pus had not formed and the indications for operative treatment were not clear. The question was also more difficult in cases of infective lymphangitis, and it could be stated at once that a large number of cases in which suppuration had not taken place could be excluded from the category of treatment by abdominal section. But even in other cases it might be contended that it would be useless on account of the infection having already become general, but this we did not know. As a rule, if anything was to be accomplished, it must be done during the first

week or two, and each case had to govern itself as to the propriety of any given procedure. After all was said, the distinction would have to be a clinical one. It must be admitted that the field for hysterectomy in puerperal cases was not a large one. The paper contained a list of the cases operated upon in America, nineteen in number, seven with recovery. While it was possible that some of the latter might have recovered without operation, the reports indicated quite the reverse.

Dr. Fernand Henrotin, of Chicago, had understood the author to say that the abdomen could be opened and drained with gauze as safely through the abdomen as the vagina. To that statement he would take absolute and decided exception. Regarding the propriety of taking away the uterus in some of these cases, it was positively his opinion that the method was proper under certain circumstances, and he would allow that in doubtful cases it was very proper to open the abdomen and try to reach the seat of the disease so as to be able to judge whether it was possible to do more conservative work than to remove the uterus. He claimed, however, that much conservative work could be done in these cases, as would be shown in his paper to be read the next day, and that vaginal incision and drainage practised early would obviate the development of abscesses and the more advanced septic state. The question of the method of operating, whether by the vagina or abdomen, after the disease had become well advanced, would be discussed later. His only object in rising on this occasion was to impress the necessity of trying to cure these patients without such severe and dangerous operative procedure or before the necessity for these had arisen.

Dr. W. Gill Wylie, of New York, said that his work had not been so much in the obstetrical line, yet he wished to direct attention to the fact that it was possible to cure puerperal septicæmia by a very simple procedure, namely, clearing out and washing the uterus. He would not undertake an operation until he had first tested the efficacy of this simple procedure, for while it would fail where the disease had passed beyond the uterus, and the woman had become thoroughly septic, yet we were unable clinically to state just when the latter stage had arrived. He had by this method, within the last year, cured two young women completely, after the cases had been given up by others as hopeless. Dr. Wylie said that he believed as much as anybody in opening the belly in this class of cases, but not before trying washing out the uterus. His method of doing this was different from the common practice, and would be described in a paper which he would read the next day.

Dr. A. F. Currier, of New York, would narrow the discussion down to those cases in which the inflammation was limited to the uterus and adnexa. According to his experience the removal of these organs after the development of advanced septic disease following the puerperium was not likely to prove successful. There was a class of cases in which the products of inflammation were extra-peritoneal which were quite amenable to operation.

Dr. Charles P. Noble, of Philadelphia, thought there was a practical point which should be brought out sharply, namely, the difference between early and late cases. There were cases in which one found a collection of pus within the tubes or elsewhere three to ten weeks after labor. These were very different from those cases of sepsis seen only a week after labor, and their treatment was, according to well-known surgical rules. He had removed the uterus in a case of early sepsis not cured by treatment directed to the interior of the organ, and the result had been what he had expected, death.

Dr. H. C. Coe, of New York, cited a case operated upon by him two weeks ago which seemed to possess all the conditions to result successfully. The pulse was 110; temperature, 100° F. He had operated upon the fifth day, found a condition that would be characterized anatomically as the congestive stage of peritonitis, a small amount of serous fluid in the abdominal cavity, no adhesions, no organized lymph, the tubes and ovaries practically free. There was acute salpingitis and acute abscess of both ovaries, which he removed. Not wishing to complicate the case by shock he left the uterus, the cavity was washed out thoroughly and drained through the vagina. The patient died within twelve hours, of collapse. The case had been a very discouraging one to him, and he must agree with those who characterized abdominal section for puerperal septicæmia as purely experimental.

Dr. Lapthorne Smith, of Montreal, called attention to the fact that in puerperal fever the uterus might become bent upon itself and pus collect in its cavity, which without special attention would remain as an abscess and lead to general puerperal peritonitis and death. At hysterectomies, etc., upon septic cases he had observed pouring out of septic matter from the numerous little vessels which were cut across, and suggested that the parts be wired off to prevent the escape of septic matter.

The Relations of Lithæmia to Diseases of the Pelvic Organs in Women was the title of the President's Address. In opening his address Dr. Matthew D. Mann, of Buffalo, thanked the members for the honor conferred upon him, expressed regret that more interest was not taken in obstetrical work in the Society, stated that the method of teaching obstetrics in our medical schools was faulty, alluded to the great loss which the Society had sustained in the death of Dr. Goodell, and then passed to the main subject of his address, "The Relations of Lithæmia to Diseases of the Pelvic Organs in Women" It had been frequently noted that the trend of modern gynecology was largely toward the surgical side. It must be admitted that by resorting to the knife, except in cases of injuries, we confess to a certain extent our defeat. He would try to throw a little light upon the origin of certain rather obscure diseases of the pelvic organs in which the particular trouble was of minor importance or secondary to certain general conditions. No discussion of this subject would be complete which did not include the urinary and alimentary organs as well as the genital. To show how these organs may be related by their position alone, take the case of gonorrhœa; not only might this disease travel up the urinary track to the kidneys, but the rectum might become infected. The President then enumerated some of the symptoms met with in which the trouble seemed to depend upon the close interdependence of function and disease in the nearly related pelvic organs. The symptoms complained of were often vague and difficult to describe. The patient told of pains and aches in various places, many of which were called reflexes.

There were menstrual disturbances, vaginal discharge, backaches and frontaches, troubles of bladder and rectum, insomnia, dyspepsia, coated tongue, dry skin, depressed spirits, headache, nervousness. Physical examination often showed no serious lesions in the pelvic organs. The urine was almost always below the normal in quantity. In twenty consecutive cases taken at random he had found the average amount of urine passed in twenty-four hours, fifteen ounces, or less than one third the normal. This scanty urine was always acid, usually of excessive degree, and generally contained excess of uric acid. Even when the quantity was below normal, the specific gravity was seldom high, showing a deficiency in solids excreted. The President had come to look upon this condition of urinary insufficiency in its relation to pelvic diseases as of the utmost importance. Differ as we might as to the exact nature of the poison contained in the urine, there could be no doubt that the urine as a whole was toxic. The retention in the system of the toxic agent which should be

eliminated by the kidneys, could not but have a deleterious effect. Another fluid whose examination must not be neglected was the blood. Herter had said that he had been surprised to find how many neurasthenics, whom there was no reason to think were anæmics, had shown a decidedly reduced proportion of hæmoglobin. For want of a better term Dr. Mann called the condition lithæmia, which he would define as follows: "A distinct disturbance of nutrition of a certain type in which there are peculiar tendencies, one of these tendencies being the output of excessive amount of uric acid. As this disturbance of nutrition inclines to continue and to recur in the individual, we may properly apply to it the term diathesis. Hence the term uric-acid diathesis." To simply treat such cases as though they were uterine or ovarian, pure and simple, was utterly useless, and yet the uterus and ovaries might need treatment even of a radical nature. Supposing, for example, that the trouble started in the stomach, perhaps from some error in diet or nervous strain, the President traced the effects which might be thus produced upon the digestion, upon the hepatic and portal circulation, causing pelvic congestion, this leading to catarrh of the uterus, this again perhaps to purulent inflammation, and so on. Imperfect metabolism of the food-products resulted in poisonous substances in the system, and owing to imperfect action of skin, kidneys, liver, and bowels, the poisons were not excreted. This led to many nervous derangements. So a vicious circle was established, always reproducing and intensifying the morbid condition. Further attention was called to the irritating effects of the urine in producing bladder symptoms. Exactly what was the irritating substance of the urine had not yet been determined. Whether excessive acidity was the only thing, was not certain, but be this as it might clinical observation went to prove that neutralization of this acidity by alkalies overcame to a certain extent the irritative qualities. The rectum might become involved in pathological change by interference with the portal circulation, by undigested food, backward displacement of the uterus, and the prominent symptom was constipation. The original source of disturbance, instead of being in the stomach, might be in the uterus, as laceration of the cervix, a displacement, or endometritis. If we sought for special causes we would find them on every hand—climatic, dietetic, social, and faulty methods of dress. The latter was dwelt upon at a considerable length. Tight-lacing was not the only source of mischief, for snug-fitting dresses were also capable of producing displacement of both uterus and all the abdominal viscera. The stomach and large intestine, especially, were often found displaced. Comparative observation had shown that these displacements were much more common in women than men. More recent observations had shown that respiration was performed the same in women as in men. The present mode of dress among civilized nations, changing as it did so important a function as respiration, must have a marked influence on the contents of the abdominal cavity. If one doubted the prevalence of waist constriction let him apply the following test: Put a tape-measure around the waist outside of the clothing and note the difference between forcible expiration and inspiration. More than one-half of the women would be found to show no change at all, about one-third would move the tape one-fourth of an inch, while one in twenty-five, perhaps, would move it nearly an inch. Men could easily move it two or three inches. "A campaign of education" was sorely needed in the matter of dress reform for women.

Renal Insufficiency in Gynecological Cases.—Dr. James H. Etheridge, of Chicago, was afraid, in view of the furor for operative gynecology, that a paper on the subject of which he was about to treat would meet with a cold reception. In connection with dispensary service his attention had been struck by the large number of gynecological patients complaining of general symptoms. He had analyzed these symptoms, and would speak of those relating to the kidneys present in one hundred cases without distinct signs of renal disease.

The amount of the solids voided in the urine in health each day varied, according to the weight of the individual, from five hundred grains for a person of ninety pounds to eleven hundred grains for one weighing one hundred and eighty pounds. Patients suffering from renal insufficiency could be regarded as poisoned patients, and should be treated accordingly. Women passing under four hundred grains a day might show a mild degree of nervousness; under three hundred grains the nervousness became more serious, and the taking of a cold would be liable to result in a bronchitis, a pleurisy, or some other malady equally grave. If the solids were reduced to two hundred grains, the condition became very serious, and if to one hundred grains the patient could be regarded as dangerously near uræmic convulsions. By administering appropriate diuretics the symptoms subsided. The paper contained illustrative cases, but the author's chief object was to call attention to the subject in general.

Dr. A. J. C. Skene, of Brooklyn, said that while it was not in order to discuss the President's Address, he wished to express his high appreciation of the manner in which it and the paper of Dr. Etheridge had treated of certain important subjects, especially renal insufficiency. He was fully convinced of the important part played by renal insufficiency in gynecology and surgery. In spite of the great dexterity and antiseptic precautions manifested at our operations, patients were sometimes known to do badly without apparent cause, and he felt sure that it was sometimes due to our overlooking their general condition, and especially the condition of the renal secretion. He believed also that many affections of the pelvic organs had their genesis in functional derangements of the nutritive system, of the nervous system, and of the excretory functions. He was glad attention had been directed to the necessity for taking into consideration other facts in relation to the urine besides albumin and casts. A diminished quantity of urine and of its solid elements might be of great significance in spite of the absence of albumin and casts. There were two classes of cases quite distinct from each other and yet often confounded in treatment. One was the neurasthenic, who required to be built up, the other was the lithæmic, who was depressed and suffering from excrementitious plethora. Forced feeding in the latter case was a great mistake, and resulted in aggravating the lithæmic state. In such a person forced feeding had an effect on the tissues similar to that observed in Strassburg geese.

Decrease of Urine after Operations.—Dr. Howard A. Kelly discussed the question of renal insufficiency from a somewhat different stand-point, or as it occurred after operations. Being unable to find the record of his analysis of the urinary secretion after operation in one hundred cases made on a former occasion, he gave the results, which were similar, obtained in twenty-one recent cases. The work in detail had been carried out by Dr. Clark. The normal amount of urine secreted each day prior to the operation varied from 847 c.c. to 1,277, the average being about 1,057 c.c. The average amount on the day after the operation was 516 c.c., and it gradually increased from day to day until the tenth, when it had reached the normal. The urine during this time was very much concentrated, and formed a thick layer if allowed to stand, the specific gravity being 1.025, or even 1.040. A knowledge of these facts would relieve the operator of much anxiety on finding the urine diminished in important or doubtful cases.

Dr. W. E. Ford, of Utica, thought the amount of the urinary secretion under the circumstances mentioned in the papers depended largely upon emotional influence.

Dr. Baldy, of Philadelphia, thought the gynecological condition in the cases referred to did not depend upon the neurasthenia, etc., but was rather the cause of the latter.

Dr. Bache Emmet, of New York, impressed the practical lesson of preparing our patients for two or more weeks before the operation by attention to the alimentary tract and the kidneys.

Dr. Lapthorne Smith, of Montreal, had his patients drink freely of water, especially after operations, and believed that it went far to obviate depression and the pains and aches due to the deposit of uric acid in the joints and muscles. Having observed that he himself had suffered nearly as much as his patients after operations, due doubtless to very free perspiration and loss of the fluids of the body, he had taken to drinking freely of water and had thus obtained complete relief.

Dr. Etheridge, in some closing remarks, said that before operations if he found the urine much diminished, he waited until it could be brought up to at least the normal amount. Like Dr. Smith, he had found that wounds in patients whose system was not saturated with uric acid healed more readily.

Indications for Total Castration by the Vagina.—Dr. Charles Jacobs, of Brussels, the author of this paper, occupied a seat on the platform while the paper was being read by Dr. Henrotin. The reader said that on the present occasion he would only give the results of practice; what he had done, how and why he had done so, the good and bad results obtained. As a general rule it might be said that vaginal hysterectomy found its indications in: 1, Uterine cancer; 2, fibroids of the uterus; 3, extra-uterine pregnancy; 4, total genital prolapse; 5, inflammatory diseases of the appendages; 6, chronic and incurable disease of the appendages and uterus; 7, diseases of the uterus after abdominal operation.

Since 1889 he had done the operation 403 times, with 391 operative cures, 12 deaths, the death-rate being 2.9 per cent. In uterine cancer vaginal hysterectomy had very clear indications. To practise the operation with success there must be, integrity of the vaginal cul-de-sac, complete mobility of the uterus, and a general satisfactory state of health. Forty-five of the above list belonged to uterine cancer, 1 death. Of the 44 there had been no return of the disease in 5, four years after the operation. The return in the majority was not until after three years.

Regarding fibroids, according to Dr. Jacobs's observation they seldom disappeared after the menopause, bilateral castration was uncertain in its results, medical palliative treatment always gave bad results, hence they should be removed. The operation was less dangerous when the tumor was small, and it should be done through the vagina before the tumor had become so large as to compel interference by way of the abdomen. Number of his operations, 38; 23 of them simple hysterectomies, with 23 cures; 15 hysterectomies by morcellation, 2 deaths, due to exhaustion and cardiac disease.

In extra-uterine pregnancy observation tended to prove that the appendages were always diseased on both sides, and since their ablation was necessary, Dr. Jacobs thought total castration by the vagina was indicated, and it should be done as soon as possible before the development of complications. He had done vaginal hysterectomy in three such cases, accompanied by intra-abdominal hæmatocele, with three cures.

Total genital prolapse was an infrequent indication for vaginal hysterectomy. The operation might be done in the aged and when the uterus was large, not small. He had operated 19 times, 1 death, from concomitant intestinal paralysis.

In inflammatory diseases of the appendages he had done vaginal hysterectomy 272 times, with 6 deaths. Pyosalpinx was present in 142; abscess of the ovary in 15; hæmatosalpinx in 33; chronic ovaro-salpingitis in 82. There was one danger in hysterectomy, namely, consecutive fistulæ, which could be classed us: 1, Peritoneal; 2, vesical; 3, ureteral; 4, intestinal fistulæ. Out of the 403 hysterectomies he had observed subsequently intestinal fistula in 5, vesical in 3, ureteral in 1. One of these patients died after resection and anastomosis with Murphy's button.

Consecutive hemorrhage was a bugbear which would only stop the timid. Out of 157 cases of serious suppuration he had left a part of the appendages twenty-one times, but he had not been obliged to have recourse to supplementary operations by reason of tardy complications. The mortality in suppurative diseases of the appendages operated upon by laparotomy by such men as Terrier and Pozzi was six and eight per cent. in 96 and 99 cases respectively; by vaginal hysterectomy, Jacobs, 157 cases, 3 deaths, or 1.9 per cent.; Péan, 350 cases, 7 deaths; Richelot, 56 cases, 5 deaths, and so on, up to 816 cases, with 36 deaths, or 4 5 per cent. In suppurative disease, therefore, Péan's operation was, he claimed, incontestably superior to laparotomy. In non-suppuration, the Péan operation gave a mortality of 1.7 per cent. in 584 cases, which was as good as laparotomy. Total castration by the vagina gave better after-results in bilateral disease of the appendages, and was less dangerous. The indications for vaginal hysterectomy were the same as those for bilateral ablation of the appendages by cœliotomy. A sufficiently exact diagnosis could usually be made before operating, but the vaginal opening could be used simply for exploration should this show total castration to be unnecessary. To do cœliotomy and leave the uterus after removing the appendages from both sides, would expose the woman to future uterine disease, pelvic pains, and nervous disorders.

In chronic and incurable diseases, among them pelvic neuralgias and tuberculosis, Péan's operation gave much better results than laparotomy. Out of six cases of this kind operated upon by Dr. Jacobs, five had remained cured of their symptoms.

The discussion on Dr. Jacobs's paper was postponed until after the reading of Dr. Wathen's and Dr. Henrotin's

Vaginal Hysterectomy for Uterine Myomata and Diseases of the Adnexa.—Dr. W. H. Wathen, of Louisville, read a part of his paper on this subject. It contained recent information from Péan, Richelot, and other European operators who followed Péan's method of operating through the vagina. The general mortality from total vaginal castration according to these figures had been 4.16 per cent., but it was to be observed that it was smaller for the more recent series of cases notwithstanding the fact that pelvic suppuration had been a more common indication. It had been claimed that, since hysterectomy should not, with few exceptions, be performed if the ovary and appendage on one side was healthy, we should not approach by way of the vagina unless we had positively diagnosticated bilateral disease. But this objection was not valid, for cœliotomy could be immediately performed after establishing the diagnosis through the vagina, and the opening thus made would serve for more complete drainage. But where the tubes and ovaries were removed from both sides, the uterus could serve no purpose and should also be removed.

The following were some reasons why vaginal hysterectomy should be preferred to cœliotomy: 1, There was more rapid and complete convalescence, the patient usually sitting up within a week and walking about a few days later; 2, in pelvic suppuration there was less danger of infection from soiling the peritoneum; 3, absence of mural abscess; 4, absence of subsequent hernia; 5, restoration to health in a greater proportion of cases. The preliminary preparation for vaginal hysterectomy and cœliotomy was practically the same. The vagina should be made as aseptic as the abdomen.

Conservative Surgical Treatment of Para- and Peri-uterine Septic Diseases.—Dr. Fernand Henrotin, of Chicago, read on this topic: Women came to us to be cured of their symptoms of the vaginal flow, pains, etc.; to them a pathological cure was of minor importance. The professor and hospital surgeon sent them home, after two weeks, cured of an operation, but often not of the disease. It was the author of one laparotomy who always knew the remote as well as the immediate result. Salpingectomy and salpingo-oöphorectomy had often failed to cure the patient with peri- and para-uterine septic disease, and of recent years it had become the practice also to remove the uterus. Having laid hands upon the ovaries, it did not matter what became of the uterus. The time, however, for showing sentiment was before the ovaries had been touched. Women with pyosalpinx, oöphoritis, pelvic abscess, etc., whether of catarrhal, puerperal, or gonorrhœal variety, did sometimes recover completely without radical operation. The gynecologist of the future, if he had a conscience, must learn to carefully discriminate between cases. This whole subject would have to be gone over again by some master who had pathological knowledge combined with experience.

Dr. Henrotin wished to direct attention to the management of the class of cases under discussion in their incipiency. This would usually fall upon the general practitioner, since he alone usually saw the case in the first stage. The time to cure septic inflammatory diseases, completely and perfectly, was within the first week of their appearance. The treatment which Dr. Henrotin recommended and had practised in the limited number of cases which he had seen the past two or three years, was to make an incision behind the uterus and explore the pelvis. The vaginal incision carried with it little if any danger. He had operated on twenty-seven cases, and all had made a satisfactory and apparently permanent recovery. Just as soon as there was evidence that the disease could not be reached from the interior of the uterus, make the incision behind, and one would have a good chance to abort the disease before it had gotten beyond control. What was the present practice? We gave a douche, put on a poultice, quieted pain with morphine, and allowed the case to go on. In contradistinction to such a hopeless policy the author recommended vaginal incision, posterior to the cervix, parallel with the axis of the vagina and downward, introduction of the finger. If nothing but an exudate was found, the patient would get well in a few days, with freely movable pelvic organs. He urged, then, cure of the disease in the beginning by simple incision and drainage.

(To be continued.)

New Treatment for Diabetes.—Lépine (*Sem. Méd.*, April 24, 1895) records the result of the treatment of four cases of diabetes mellitus with a glycolytic ferment prepared from the diastase of malt. In all four cases there was distinct improvement, and details of these cases are given. As regards the sugar excretion, in the first class, before treatment the mean quantity for the twenty-four hours was 140 gm.; under the influence of the ferment it was 70 gm. In the second case the sugar was reduced from 41 to 11 gm.; the third case from 116 to 80 gm.; in the fourth case from 257 to 124 gm.; but later only to 163 gm. The ferment is not diuretic; it has no injurious effects, but the improvement is only temporary.

It Stands Alone.—A Paris medical journal refused to receive yearly subscriptions. The editor who writes the whole monthly edition himself evidently fears that either he or the reader will grow suddenly weary.

The Foundling Asylum in Rome has been closed because of the great mortality among the inmates.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

SUMMER SESSION — ROYAL SOCIETY—SANITARY CONFERENCE AT MANCHESTER — LONDON AND PROVINCIAL DEATH-RATES — OBSTETRICAL SOCIETY — WHITE LEG.

London, May 11, 1895.

We are now in the full work of the summer session at all the medical schools, so that the hospitals have put on a more animated appearance. The short recess seems in many instances to have rejuvenated the workers, although others look as fatigued as ever, perhaps because they took no holiday.

Among the newly elected Fellows of the Royal Society are Drs. MacEwen and Sidney Martin and Mr. W. H. Power. At the annual *soirée* of the Society there was, as usual, an interesting exhibition. The spectra of the newly discovered element, argon, and of a mixture of argon and helion, were shown by Professor Ramsay. Mr. Galton exhibited plates of finger-prints (magnified) illustrating the method of identifying criminals which has recently been practised. Another striking exhibit was that showing the conveyance of contagium by flies. These insects have often been suspected, but I do not remember any proof like that offered by Mr. W. T. Burgess on this occasion. He places flies for a moment in contact with cultivations of bacillus prodigiosus and then lets them escape in a large room. After a time, often several hours, he catches them and makes them walk over sterilized slices of potatoes, which are then incubated, when vigorous growths of the organism appear. This looks as if the danger from flies has not been fully appreciated.

There were many other exhibits, among them that of the Marine Biological Society illustrating the effect of light in the pigmentation of flat fish.

Manchester enjoyed a sanitary conference at the end of last month and also a conference of district councils on registration of plumbers. Sir H. Roscoe introduced the subject of smoke abatement. Mr. Fletcher, chief inspector of alkali works, urged that coal-smoke should be the subject of regulations as much as vapors of chemical works. The Earl of Meath was strong on his favorite subject of open spaces, and especially playgrounds, for children and women. The ventilation and lighting of schools, the value of winter gardens and recreation halls, and other subjects were also freely discussed.

The Registrar-General's returns for the first quarter of the year are now issued, from which it seems that in the 33 large English towns 66,503 deaths were registered during the three months, corresponding to an annual rate of 25.2 per 1,000, against 25.8, 22.0, and 21.0 in the same period of the three preceding years. In London our rate was 26, while it averaged 24.6 in the 32 large provincial towns. The diphtheria rate in London was 0.39; in the provinces, 0.24. Infant mortality was 159 in London, and 162 in the provinces.

The annual meeting of the Obstetrical Society of London was held Wednesday, May 1st, when Dr. C. Hubert Roberts gave details of sixteen cases of so-called white leg, most commonly met with after confinements, and of which he proposed the following classification: 1. Cases due to pressure. 2. Cases associated with general disease. 3. Cases of a true septic nature. 4. Cases of thrombosis apart from sepsis. 5. Cases of thrombosis and sepsis combined.

Dr. Horrocks was not sure that the author had made out a difference between Classes 4 and 5, and asked on what grounds the conclusion was reached that some cases of thrombosis were not due to any form of sepsis. He believed both forms of white leg to be due to some

form of sepsis. It was possible that in some cases clotting in the veins was more marked than in the lymphatics, while in others the lymphatic element predominated, but this fact did not exclude sepsis. He pointed out that sepsis was not negatived by the absence of any evidence of para- (or peri-) metritis, for the micro-organism might not give rise to any inflammation of the connective tissue.

Dr. Herman thought that these were cases of "swelled leg," and not what is technically called or described as "white leg." Thrombosis might exist apart from sepsis, and this was quite a different complaint from thrombosis with sepsis. It would be interesting to know whether white leg occurred in cases in which thorough antiseptic precautions had been carried out, but they had no statistics as to the frequency now and before the introduction of antiseptic methods. In the rare cases in which women suffering from phlegmasia alba dolens died they died in quite a different way to those who obviously succumbed to sepsis. Swelled leg from thrombosis was a different thing from true phlegmasia dolens. Though there was little or no anatomical evidence of the disease being due partly to thrombosis and partly to lymphangitis, there was clinical evidence.

Dr. A. Routh suggested that if the author had seen these cases quite in their original state he might possibly have discovered some of the characteristic appearances of true phlegmasia dolens. One did not usually see these cases until the first stage had passed off, and he related a case to show that it was quite possible that most of the so-called cases of thrombosis might have begun by lymphangitis.

Dr. Macnaughten Jones felt more disposed to adopt Tilbury Fox's view that the affection began in the lymphatics rather than in the veins, and possibly some of the differences observed might be due to the predominance of the changes in the veins and in the lymphatics respectively. He agreed with the view that the affection sometimes occurred independently of sepsis. Pressure as a cause was proved by two cases which he had met with, in which no symptoms whatever of any septic condition were present previously to the supervention of the characteristic appearances of phlegmasia. This pressure had been accounted for anatomically by the peculiar injuries to which the left side of the uterus was supposed to be liable, but that view did not commend itself to him. He pointed out that on the left side the artery overlay the vein, which was a more likely cause of pressure.

Dr. Griffith agreed that there were essential differences between the disease as described in text-books and cases due to simple thrombosis. He did not think the author's explanation was quite admissible as to the cause of the thrombosis. He had examined two cases very carefully post mortem, and in both the thrombosis had extended from the uterine sinuses right up the uterine veins. Given the size of the uterine veins it was quite conceivable that they might be thrombosed without giving rise to any constitutional symptoms, and it was not until there was a sudden interference with the circulation in such a large part as the leg that one got the characteristic symptoms.

Dr. Robinson said Vidal discovered in many of these cases a streptococcic invasion of the thrombosed veins.

The President—Dr. Champneys—said the discussion showed how obscure the pathology of this condition still was. The author has cleared the ground somewhat by pointing out the difficulties that beset any theory of these curious affections which were lumped together under the term "white leg." He failed to see that Class 1 was necessarily different from Class 4, because pressure would be very likely to lead to thrombosis. In speaking of sepsis it was necessary to define exactly what was meant. Did the author mean by sepsis such a condition as sometimes culminated in puerperal fever? That could not be the case in white leg of any sort, otherwise the majority would die, whereas a fatal termination was very rare.

Dr. A. Giles observed that in only one case was the history of sepsis at all definite, and that was the one in which there was abscess with sloughing.

Dr. Roberts, in reply, said it must be remembered that one got thrombosis of the veins of the uterus and broad ligaments without there being any appreciable sign on examination. Personally he did not believe that many of these cases originated in lymphatic disturbances.

THE RECENT EVOLUTION OF SURGERY.

ABRIDGED REPORT OF THE ORATION AT THE MEDICAL SOCIETY OF LONDON, MAY 20TH.

(From our own Correspondent.)

LONDON, May 20, 1895.

THE Conversazione of the Medical Society of London was held on Monday last, when the annual oration was delivered by Mr. Pearce Gould, who took for the subject of his discourse the changes that have come over surgery during the last twenty-five years, changes so important that progress seemed to him too tame a word to indicate the development of the spirit of surgery and its increased adaptation to the requirements of mankind. So the orator proposed to call these changes "evolution;" though how that is a more descriptive or more forcible name than progress may puzzle many to see. Mr. Gould pointed out and illustrated with considerable force five changes which are comprised in this evolution. These are: 1. The removal of the formerly admitted anatomical restrictions upon surgical operations, sometimes spoken of as the extension of surgery into new regions, but that is a very imperfect expression of the facts, and conceals their true significance. Trephining probably dates from prehistoric times, but up to a very recent day surgeons have only removed bone, and carefully abstained from interference with the brain. Trephining is now only an incident in an operation directed to treatment of the membranes of the brain. So our immediate predecessors operated timidly, if at all, upon the posterior part of the vertebral column. Of the surgery of the thorax the same holds true. Operations upon its walls were sanctioned long ago, and timid efforts were made occasionally to open and even drain the pleura. Now, not only the pleura but the lung itself is freely operated upon, and the chief bar to further pulmonary surgery is the difficulty of precise diagnosis and localization of lung diseases. The pericardium is aspirated or drained without hesitation, and the suggestion has been made not only to tap the heart itself, but to treat wounds of its muscular substance by careful suture. The mediastinum, too, is now within the pale of legitimate surgery. No single organ in the great cavity of the abdomen is now held to be beyond the reach of the surgeon's knife. The removal of huge abdominal tumors is a commonplace event, and surgical methods extend to all the abdominal viscera.

Until quite recently surgeons recognized that many organs and parts of the body lay beyond the limits of legitimate surgical interference, and admitted it to be no reproach to their art to refuse to interfere with the peritoneum, the kidney, the lung, or the brain. A surgical operation was thought to be in its very nature lethal; certain tissues and organs were held to be of such anatomical delicacy that to submit them to operation was to court disaster.

Surgeons who saw the removal of a subcutaneous fatty tumor entail suppuration and the risk of blood-poisoning could not contemplate with approval the removal of a kidney. When the surgical wound of a healthy joint was seen to be attended with the gravest

risk to limb and even life, how could a surgeon dare to lay open and operate freely upon a huge serous sac like the peritoneum? When every surgical procedure entailed grievous risk, and no means were known of certainly avoiding it, all surgeons felt the necessity of limiting operations to the irreducible minimum, and when it was forced upon them that the deeper their incisions the greater the peril, what else could they think than that the mere depth of an organ, and the means taken by nature to protect it from external violence, were a clear intimation of its being beyond the scope of surgery? To-day we know that simple, well-executed surgical procedures are not in themselves pathogenic, and that every tissue and organ of the body is the seat of a power of repair more than equal to the demand surgery makes. With this knowledge the anatomical barrier to the progress of surgery vanished, and from an anatomical stand-point the only bar to the feasibility of an operation is its mechanical impossibility. But a surgeon is not free to incise anywhere or to excise anything. The very removal of the anatomical restrictions upon the activity of surgeons has brought into relief the physiological restraints upon their art. Thus, while the depth and important relations and the anatomical structure are no bar to the excision of either kidney, the physiological importance of the organs is an absolute bar to double nephrectomy or to the removal of a single kidney when its fellow is *hors de combat* from disease. A wandering spleen has been successfully excised; its place in the organism can be filled by the bone marrow, aided possibly by the lymphatic glands, and sometimes by small masses of spleen tissues left behind in the gastro-splenic omentum. But so far as we know a wandering liver can never be treated in the same way—anatomically the operation is almost equally feasible, but physiologically it is barred. Similarly the medulla oblongata and the central portions of the brain are outside the field of surgery, not because they cannot be reached, nor on account of peculiarity of structure, but because of their physiological importance. The only limit in the anatomical range of his activities that a surgeon now recognizes is the physiological one. He only asks whether he can operate upon it without injury to structures necessary to life, or without inflicting upon the patient greater disabilities than those caused by the disease he has to combat.

2. The higher regard in which the physiological integrity of the organism is now held was the next point. Though no tissue or organ is now held by surgeons to be beyond the scope of their activities, all tissues and organs have assumed a new and higher sacredness in their eyes. Surgery has become more conservative than ever. It is true that diseased structures are removed with greater freedom, and almost regardless of situation. But never before have we seen such efforts made to limit operations to the removal of diseased parts, and to save all healthy structure, as are constantly witnessed now.

3. A new conception of the real nature of a surgical operation, and of the personal responsibility of the operator. An operation used to be regarded as in itself a cause of disease, and suppuration was thought sometimes a physiological and not always a pathological process. Surgeons were called "brilliant" if only they could operate with despatch and dexterity. If a large proportion of recoveries was obtained, the man was apt to be called "lucky;" if failures predominated, again it was his "luck;" shoulders were shrugged, the Deity was blamed, and the surgeon took comfort in his "brilliancy." To-day, this is a dead language to us. Instead of brilliancy in execution, we demand success; instead of speaking of "luck," we talk of surgical responsibility! Operations still fail, but instead of blaming the Deity, we now blame ourselves for it. For how do failures arise? We may attempt what we are unable to effect, but such attempts should be made so as not to add to our patient's ills; we ought, at least, not to introduce any new elements of danger where we cannot effect relief. An operation may be fatal from shock, or by the infliction of some injury to a really vital part, or by what is called an accident, such as uncontrollable hemorrhage; or it may be the means of infecting the patient's healthy tissues with virus introduced from without or from within from the patient's own tissues.

4. Surgery has apprehended that its highest ideal is to treat directly the causes of disease. Up to the last few years surgical methods, as applied to disease, were crude. They consisted of the removal of pathological products, as by amputation, the relief of tension, and the application of physiological rest; knowing nothing of the ultimate causes of disease, nothing could be done to combat them.

Let us fasten attention upon the change of thought itself rather than upon its practical outcome. Take merely, for example, tubercular disease. For tubercular disease of lymphatic glands the old practice was the opening of abscesses, and in this it only slightly anticipated nature. To-day this plan is almost never adopted except as a temporizing expedient or a preliminary to a more radical operation. But the surgeon directs all his efforts to one end—the removal, not only of the effete products of the disease, but of the active cause of the disease itself, the tubercle bacilli. As a result, we have our patients well in a few days instead of their lingering on with slow suppuration for months and years, exposed all the time to a real peril of more widespread tubercular infection.

5. The last indication of surgical evolution brought forward by the orator was physiological operation. By this term he meant any operation on a part which was not the seat of the disease nor yet the cause of the disease, but by influencing which we may beneficially affect a morbid change in another part. Of this kind of substitutionary surgery normal ovariotomy for uterine fibroids and castration for diseased prostate were examples. Mr. Gould did not offer any opinion on the results or value of these operations, but only named them as instances of the outcome of a new idea in surgery which may be the beginning of a new epoch.

OUR PARIS LETTER.

HYPNOTISM—SUGGESTION—ABSINTHISM—DECREASE IN THE FRENCH POPULATION—PROFESSOR LABORDE'S EXPERIMENT, ETC.

PARIS, May 25, 1895.

THE important and, we may add, alarming questions of hypnotism and suggestion have passed far beyond the domain of medicine and are being now vulgarized by the laity as well as employed by charlatans, masseurs, electricians, somnambulists, and mesmerizers of all sorts, sometimes criminally. A curious case has just been brought to light in the courts. A man and his wife, named Jouve, took up their abode in the house of a woman living at Lyon, whose husband had recently died very mysteriously—Jouve, unknown to the deceased or his wife, being in the house at the time, and taking up his abode with the widow, as had been indicated to him, he said, in a dream. They magnetized her repeatedly, put her into hypnotic sleep, provoked attacks of hysteria, and caused her to live in a state of perpetual ecstasy until her death, a few months after that of her husband, when it was found that Jouve had obtained a power of attorney over her entire wealth. The trial is still going on, and the setting aside of the will is demanded on account of suggestion.

A very interesting report on this subject has just been published by Doctor Lacassagne, recalling the legendary quarrel between the schools of Paris and Nancy which

the Parisian jury had to consider at the trial of Gabrielle Bompard, the mistress of Eyraud, who asserted that she was hypnotized by Eyraud and committed the murder by suggestion. These are the two leading schools of the world in this branch of science; the school of Nancy, with Bernheim at its head, asserting that hypnotism is an inferior state, a sort of dividing into two of the soul. The school of Paris replying through the illustrious Charcot that the hypnotic state is a disease of the nervous system, a disease that can be provoked and realized in hysterical subjects only. It is difficult, indeed, to lay down any fixed rules or dogmas in matters so far-reaching as hypnotism and suggestion; and while the school of Paris is undoubtedly right in the main and as regards true hypnotism, yet it loses sight of that more general and lighter form of hypnotism that medical men see on all sides to-day. One may be hypnotized by a picture, or a horse with richly silver-plated harness, and while the state lasts, which in this case may be more or less transitory, any suggestion made will be carried out, or at least an attempt will be made to carry it out, and then the charm is broken, and the subject at once returns to him or herself. The Nancy school assert, on the contrary, that the hypnotic state thus induced is permanent, and cite an instance of hypnotism and suggestion riding in a railway carriage, where the subject was hypnotized simply by being looked at fixedly in the eyes, and made to carry out the suggestion some months later and at several hundred miles' distance from the hypnotizer. It is this kind of hypnotism in comparatively healthy but negative subjects that the Paris school refutes altogether. The writer has known instances of this kind of fascination in which the subject was suggestible momentarily —fascination is the word—a wide difference from true hypnotism, of which it is only the first stage, and such subjects are mostly incapable of being really hypnotized.

To show how wide-spread the hypnotic idea has become we note that the Société d'Hypnologie is now devoted not only to medical hypnotism but tends to embrace the domain of psychology and sociology, the Review of the Society having just published an essay by Dr. Regnault on the social utility of suggestion.

Speaking of fascinations, we are led to mention one that is very largely on the increase not only in Paris but all over France—absinthism. Driving in any part of Paris in the morning about half after eleven o'clock or in the evening at six, one sees hundreds of Frenchmen and women seated at the little tables in front of the cafés drinking, and three out of every four are sipping absinthe. This distillation of an herb that grows in some parts of France and Switzerland contains, besides alcohol at eighty-five per cent. an essential oil which possesses for absintheurs a fascination. The liquor when poured out resembles in color Scotch whiskey, but when a perforated silver spade is put across the top of the glass with a lump of sugar on it and water allowed to drip slowly through, it assumes an opalescent green color with a taste of anise-seed. It is now ready for consumption, which requires from one-half to three-quarters of an hour. The absintheur then goes home with an excellent appetite and lies down at night to voluptuous dreams. Next morning he awakes quite well and the absinthe of the day before acts as a mild aperient. But soon the scene changes, and in a few years or a few months, as the case may be and as the number of glasses a day has been smaller or larger, we see him a prey to tremblings, epilepsy, dementia, neurasthenia or convulsions, cerebral or spinal congestion or paralysis, etc. For this one, two, three, or at most four absinthes a day are enough. One of the first actions on the nerve-centres is to annul all sexual desire, and it is for this cause, absinthe, that the population of France is decreasing, while suicide, crime, insanity, and diseases of the nervous system are increasing.

Professor Laborde injected recently, before his class, 1 c.c. (between fifteen and twenty drops) of the essence of absinthe into a guinea-pig, which died after a series of epileptiform convulsions. During the intervals the animal stiffened itself on its four legs, curved its back in *arc de cercle*, and then fell down repeatedly, agitating its fore paws wildly and crying piteously until death ended its sufferings in forty-five minutes after the injection.

THE NEW YORK STATE MEDICAL LAW.

To the Editor of the Medical Record.

Sir: So many requests for information relating to the medical laws of the State are being received that it has been thought proper to call the attention of the profession to a feature of the existing law which expires by limitation on August 1, 1895. Paragraph 148, chapter 661, of the laws of 1893 provides that persons "who matriculated in a New York medical school before June 5, 1890, and who received the degree M.D. from a registered medical school before August 1, 1895, may without further examination, on payment of $10 to the regents and submitting such evidence as they may require, receive from them an indorsement of their licenses or diplomas conferring all rights and privileges of a regents' license issued after examination." From this it will be seen that after August 1, 1895, whether or not matriculated previous to June 5, 1890, all persons desiring to practise in this State must pass the medical licensing examinations. It will therefore be well for all entitled to the privilege of this exemption to file their applications for indorsement with the regents as soon as possible.

The Legislature of 1895 has restored the penalty feature of the law as it stood previous to revision by the statutory revision committee, and medical malefactors and others unlicensed and unregistered may once more be prosecuted in the criminal courts. A vigorous enforcement of the laws by county medical societies is urged in the hope of the benefit to be derived by the public as well as for the good name of the profession of medicine. The Legislature of 1895 has also passed a law which will make it necessary for every person receiving the degree of M.D. from a medical college in the State of New York, after the year 1900, to have had an academic education equivalent to graduation from a first-class high school or academy.

Respectfully,

Maurice J. Lewi, M.D.

New York, June 11, 1895.

THE ORAL EDUCATION OF THE DEAF.

To the Editor of the Medical Record.

Sir: Since it is to the members of the medical profession that parents first go for advice when they discover that the hearing of their children is impaired or destroyed, it is a matter of importance that they should be well posted concerning the educational possibilities for the deaf. The point that the medical specialist and general practitioner alike care especially about is what results are obtained and where they are obtained.

It has been my observation throughout the years of my connection with the oral education of the deaf, that a surprisingly small number of people have a true understanding of the extent to which such education is carried and the degree of perfection attained. Everyone knows that the deaf are educated and that some of them are taught to speak. The impression, however, seems to exist in the minds of many that this education is always imparted by means of signs. The fact that a large part of the deaf children under instruction in the United States and Canada are taught as wholly without signs, and as entirely by means of speech as their hearing brothers and sisters is not so fully understood.

The term "signs" is used by the public indiscriminately for two very different means of communication, whose only likeness is that they both employ the hands. I refer to the manual alphabet and to gestural signs. Most people mean by the term "signs" applied to the deaf, any systematic use of the hands to convey information. To them finger spelling and the making of gestural signs are much the same thing. They are, however, in reality widely different. The manual alphabet is English spelled on the fingers, letter by letter, instead of with a pencil, while signs proper are a language as totally different from English in form and construction as French is different from English, and instead of assisting in teaching the deaf their native language it rather hinders them in acquiring it. This is now almost universally acknowledged, even by the men who have taught by signs all their lives, and the sign language proper is being crowded out, and, where still used, is being more and more restricted every year.

Formerly the schools where manual methods are employed did not pay any attention to speech, but of late years the Oralists have made such inroads upon them in the public estimation that in self-defence many of them now give a little time to trying to teach speech as an accomplishment, though not as a working means of communication. But one might as well expect to learn to speak Greek fluently by spending half an hour a day in learning how to pronounce a few words, and all the rest of the time using English. The oral method is gaining steadily upon the manual method, because it gives all that the manual gives of education and something more besides. It gives speech and lip-reading.

The first oral school in the United States was established in 1867, and now there are twenty-two. There were present in the schools for the deaf in the United States and Canada, on November 15, 1894, 9,534 pupils. Of these, 2,525, or 26.48 per cent., were taught by the oral method, that is, by speech on the part of both teacher and pupil, the latter reading the speech of the former by the motions of the lips and the expression of the face. In addition to these, there were 2,534 who were given some instruction in speech in the schools where signs and the manual alphabet are used.

There are now schools for the oral education of deaf children from two years of age to the time when they are old enough and advanced enough to enter college. This growth of the oral method has been due to the feeling that the deaf child needed something more than an education in the ordinary school branches. He needs some means of communication with the world at large. The general public do not know the sign language or the manual alphabet, and never will. The child whose sole means of communicating is by these or writing, is shut out from intercourse with his fellows to a much greater degree than his comrade who, in addition to his education, has been given the ability to understand the speech of others and make himself understood in the same way. To convince one's self that the oral method does this, it is only necessary to spend two or three hours in some one of the best oral schools, where the deaf children can be seen in all stages of their progress, from the little ones just lisping their first words to those in the higher classes struggling with the problems in algebra and the political history of our own country. Talk with them, ask them questions, and get them to ask you questions. It is quite probable that you will not understand some of them at first. Their speech is strange to you as that of a Frenchman with a strong accent would be. But you will soon become accustomed to it as you would to the Frenchman's. The same is true of their reading your speech. No two people speak alike, any more than two people write alike, and a lip-reader needs to become accustomed to your peculiarities of speech just as he would to your handwriting. Another difficulty that strangers often have in speaking with a person whom they know to be deaf is that they think it is necessary to exaggerate their speech. This is a mistake, and adds to the difficulty of the lip-reader. To a really good lip-reader perfectly natural speech is easiest to read. The only thing which does help them in understanding a stranger is a little slowing up on the part of the speaker, that is, making a slight pause between the words, but not between the syllables of a word.

In the education of the deaf there are three great things to be accomplished: The teaching of language; the teaching of speech; the teaching of lip-reading; I have put them in the order of their importance and their difficulty, a fact the truth of which very few people outside the ranks of the teachers of the deaf realize. I venture to say that nine out of ten of the readers of this paper if asked which of these three presented the least difficulty to the teacher would reply, "the language." As a matter of fact, in practice it is the greatest task of the three. No one who has not been a teacher of the deaf realizes how hard a thing it is to give a congenitally deaf child a thorough mastery over the English language. It is upon this point that the burden of instruction is brought to bear, whether the method be manual or oral, and the understanding and use of language serves as an excellent criterion of the success or failure of a system of instruction.

After the founding of oral schools in this country, where children are not received under six years of age, the next most important departure was the opening of one or two schools, or rather homes, where children are received at a very early age, even as young as two years. Few people realize the importance of beginning the speech-training of deaf children at the same time that a hearing child begins to try to talk. It is now being very generally recognized that the deaf child should be treated as nearly as possible as a hearing child, and we have found that it is possible to treat them much more nearly as the hearing are treated than anyone supposed ten years ago.

It is a fact that the voice of a young deaf child is perfectly natural in his laugh and cry and other voluntary noises. It is beginning to dawn on the minds of a few people that it may be the methods of instruction that make "deaf-mutes" of deaf children and not the fact that they cannot hear. In other words, that if we adopted a somewhat different method of procedure we should turn out our pupils with natural, agreeable voices, and a readiness in understanding speech that is now unknown. Some are coming to believe that it is because the methods employed with the child who can hear are so widely departed from in the case of the child who cannot hear that better results are not obtained. The opening of these homes for the training in speech of very young children is a long step in the direction of realizing the conditions desired by these "advanced thinkers." I have heard parents say, "How dreadful to send a little baby only two years old away to school!" They do not understand that what they call schools are nothing but ideal homes for deaf children, where they receive all the care and petting that they would receive at home, and yet in a way that is continually bearing upon their after happiness. If the mother and father and brothers and sisters could only have studied the situation and needs of the deaf child they could do just as much for him at home during these early years. But they do not, and the result is that these precious years are thrown away.

Through all the past years the oral education of the deaf has been going on supported by the State and occasionally by private beneficence. And even in those oral schools which approximated most closely to schools for the hearing, the deaf were regarded as a class by themselves, to be surrounded by different conditions from their hearing brothers and sisters of the same social grade. When it chanced that there was a deaf child in a family of wealth and refinement, the

parents visited the public schools, and after seeing the conditions made necessary even in the best schools by large numbers and state support, they went home, and after considerable difficulty obtained a teacher to instruct their child at home, excluded from companionship with children of his own age, and shut out from the stimulus and incentive of association with others in the same work. There was no other alternative. They looked for a school for their deaf child offering the same advantages, socially and educationally, as those open everywhere to their hearing children, but such a school was not to be found. So, though they realized that it would be far better for their children to go to school than to stay at home, they were obliged to content themselves with that solution of the problem.

After the opening of the schools for very young deaf children, perhaps the next most marked step forward in the work of placing the deaf child on the same level with his social equals, was the establishment in New York City of a school, organized on the same scale of equipment as the finest and most expensive schools in the city for those who can hear. Here the surroundings are those of a wealthy and refined home, and at the same time the pupils are carried from the beginning of their instruction to, and even through, the regular course for a degree in the colleges of the city. This has never been possible for the deaf before, and thus the last section is completed of the long road by which the deaf child is led from a path that seems hopelessly divergent from the road travelled by the child who can hear, back to union with that road when it reaches college. Few people are aware that the education of the deaf is carried so far, and many will be surprised to learn that a boy will enter Columbia College in the City of New York next October, whose entire education has been obtained since he was deaf, and wholly by the oral method, and that another is expected to enter a year from that time. These boys are subject to the same standards and requirements as their hearing fellows.

Just one example to show what can be accomplished in speech and lip-reading. Last summer at the convention of the Oral Teachers of the Deaf, at Chautauqua, a gentleman who is on the staff of the *Review of Reviews*, saw a little girl whom he knew to be deaf writing a letter at one of the tables in the hotel lobby. On the other side of the table sat a young lady whom he supposed to be the child's teacher, and as no newspaper man misses an opportunity to obtain information and talk to a pretty girl at the same time, this gentleman stepped up, and politely doffing his hat, said, "Pardon me, but may I ask you to tell me something about the methods employed in teaching a young deaf child like this little girl?"

"I am afraid I cannot give you a very good idea," she replied, "but I will try." Whereupon she went on to tell him a little about the methods employed. When she had finished he thanked her and said, "May I ask in what school you are a teacher?" "Oh! I am not a teacher, but I am a graduate of a school for the deaf," was the answer. The gentleman was completely taken aback, and after expressing his surprise and complimenting the young lady upon her wonderful success, he came over to me and said: "There's a young miss over there who thinks I come from the back districts, and just tried to make me think she had been deaf since she was a baby." "Well, I know it to be true," said I.

Results as perfect as this cannot, or at least have not, been produced in every case. But a degree of success is obtained that more than warrants the expenditure of the time and money in the process. I have often been asked what proportion of the deaf can be advantageously taught by the oral method. My reply is, one hundred per cent. of those that can be taught by any system. The cases of malformation rendering speech impossible are, as every physician knows, very rare, and if begun at an early age both speech and lip-reading are possible to every child of normal mind.

Nor are the benefits of lip-reading confined to those who have been deaf from infancy and those who are totally deaf. Adults who have become deaf or even hard of hearing, can be taught to understand the conversation of others by the motions of the lips and the expression of the face, without requiring the speaker to raise his voice. By this means it is quite possible for adults who are totally deaf to mingle freely in society without anyone suspecting that they cannot hear.

JOHN DUTTON WRIGHT.

42 WEST SEVENTY-SIXTH STREET,
NEW YORK CITY.

ANTITOXIN IN SCARLATINA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I notice in the MEDICAL RECORD of May 25th, in the report of the meeting of the American Medical Association, in the Section of Diseases of Children, that in reporting my case of antitoxin in scarlatina credit is given to Dr. Clark Parker.

The diagnosis of scarlatina was made on Saturday morning. Sunday the appearance of the case would ordinarily have been diagnosed as true diphtheria. Although the cultures made from Sunday's and Monday's specimens did not develop the Klebs-Loeffler bacilli, and although chains of streptococci were discovered, the case was unquestionably either one of mixed infection or of malignant scarlatina. Antitoxin was used, one injection Sunday, and two injections Monday, 20 c.c. each—a case which would beyond a doubt have been absolutely fatal under ordinary circumstances came promptly under control by the treatment of antitoxin.

W. THORNTON PARKER, M.D.

GROVELAND, MASS.

ON THE PHYSIOLOGICAL ACTION OF PERIODIC INDUCED CURRENTS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I regret that Dr. Goelet in his comments on my communication missed both its spirit and contention. It was in no way a criticism upon his claims, neither was it meant to convey the idea that he "was taking something that belonged to me." Now, however, when he says that a "certain manufacturer asked his permission to wind upon one spool all the different lengths and sizes of wire as he has suggested, and that he granted him permission upon condition that he would only continue its manufacture if I (Goelet) found the results derived therefrom as satisfactory," etc., one's credulity is not a little taxed. On what ground it became necessary to ask any man's permission to use any length or size of wire, is by no means clear. No such permission was necessary, and as I understand it, no such permission was applied for. I do not mean to say that Dr. Goelet did not think that his permission was asked, but simply that he was mistaken.

As a matter of fact, the manufacturer to whom he alludes constructed for my use and at my suggestion, some years before the appearance of Dr. Goelet's article, a continuous coil of nearly two thousand yards, made up of all the various sizes of wire mentioned, and in the MEDICAL RECORD of February 14, 1891, nearly a year before Dr. Goelet's article, may be found my paper on the "Different Physiological and Therapeutical Properties of the Induced Current of Electricity," based upon long experience and experiment with these very coils of low and high tension. Dr. Goelet says that "if Dr. Rockwell described in the *New York Medical Journal* of May 13, 1893, and August 18, 1894, the only improvement that has been made in these coils, it seems evident that he must have taken his

suggestion from my article referred to above, which was published in November, 1891." In view of my previous articles and work along this line, this statement is not altogether agreeable, especially as the improvement to which I referred in this particular instance is quite different from what Dr. Goelet had in mind, and with which he could have had absolutely nothing to do. I will not take time or space to describe it. To anyone reading with ordinary care the article designated in my letter of May 4th, it is readily apparent.

A. D. ROCKWELL, M.D.

May 28, 1895.

New Instruments.

A NEW AND COMPLETE PORTABLE STERILIZER.[1]

BY CARLOS C. BOOTH, M.D.,

YOUNGSTOWN, O.

GENTLEMEN: I have the pleasure of showing you a new and compact portable sterilizer for surgical use. This box (Fig. 1), shows a sterilizer ready to put into your operating satchel; or, if you choose, you can have a canvas bag to carry it in, but I prefer filling it with instruments, etc., and setting it into my operating satchel. This box is 12½ inches long, 5¾ inches high, and 5½ inches wide. I remove the cover and from it take a boiling pan which is 2½ inches in depth and 12 inches long, which contains four legs, an alcohol lamp, and a perforated tray for instruments. I now insert the legs into the bottom of the boiler, place the alcohol lamp beneath, and place this box, which has a perforated bottom and is, you notice, flanged in such a way that the condensed steam returns to the boiler, on top of the boiling-pan. This shows the apparatus complete (Fig. 2). This arrangement gives you a complete apparatus for boiling instruments and at the same time sterilizing your dressings, towels, ligatures, sutures, etc. When ready to put the instruments into your operating trays, you lift off the steamer and by means of these handles remove the tray from the boiling soda solution containing the instruments to the stand where your trays are. By putting back the steamer you can keep the contents hot until you are ready to use them. The towels and dressings are perfectly dry as soon as cold after being removed from the sterilizer. There is plenty of room for one half-dozen towels and all the dressing that is needed for any operation. You notice that after I repack this apparatus there still remains plenty of room inside for instruments etc. Thus, the sterilizer takes up a very little room in the satchel. I do not use the lid for a tray, because it is necessary to keep your dressings and towels hot until you need them. The advantages I claim for my apparatus over any other portable sterilizer are, 1, its compactness and amount of room inside for use when in transit; 2, the fact that you can have a separate place where you can keep towels and dressings perfectly sterilized and hot until ready to use them; 3, its cheapness, costing only about half as much as some others on the market. It is constructed mainly of German silver and can be had from The Averbeck Company, Youngstown, O.

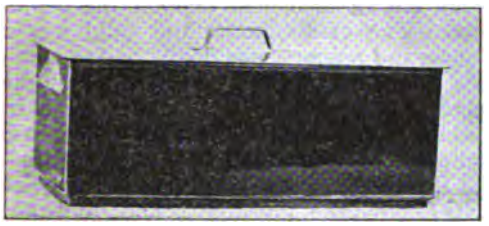


FIG. 1.

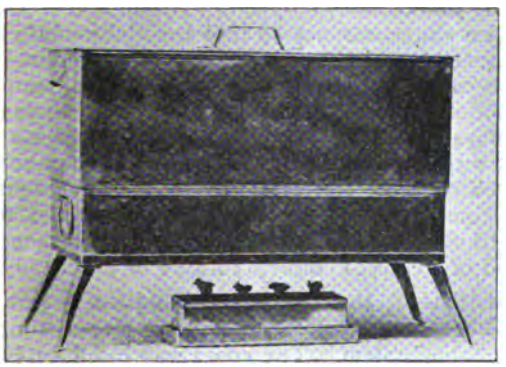


FIG. 2.

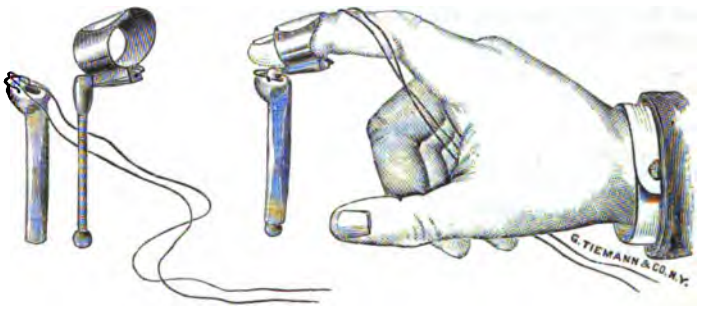
[1] Shown before the January meeting of the Mahoning County Medical Society, Youngstown, O.

A NEW INTRODUCOR AND EXTRACTOR FOR INTUBATING THE LARYNX.

BY DAVID C. LEWINTHAL, M.D.,

NEW YORK.

THIS introducor and extractor for intubating the larynx has been devised by me with a view to simplify the ingenious, but somewhat complicated and cumbersome apparatus at the present time in use. The introducor consists of a metallic ring, fitting closely the end of the index finger. Underneath the ring the obturator, which is made of flexible steel, is attached by means of a spring catch. The head of the tube is supplied with a wire rim as shown in the appended cut. The string drawn through the wire rim and passing to the right of the index finger, and being held by the third and fourth fingers against the palm of the hand, keeps the tube attached to the obturator. By releasing the string after accomplished incubation, the obturator need only be lifted out of the tube and the operation is completed. The removal of the tube is accomplished by the extractor, well shown in the cut, and which consists of a metallic ring with a small hook attachment. Lifting the epiglottis, the wire rim can be easily felt by the tip of the finger, which has been left free for the purpose of sensation. A slight pass of the finger, and the hook is caught into the wire rim, and the tube is removed.



The advantages claimed for this introducor and extractor are their simplicity, and hence smaller cost and lesser liability of getting out of order. The tube being attached to the end of the index finger is directly under the sensation of touch, and hence can be manipulated with greater delicacy and the direction of its course can be better determined according to necessity.

The obturator has been made flexible for the purpose of avoiding its catching and extracting the tube after it is once well in the larynx as has frequently happened to beginners. After the tube is in the larynx, the simple release of the string disattaches the obturator from the

tube and thus a few seconds of valuable time are saved, that otherwise would be spent in pushing the tube off the obturator.

The extractor is, above all, harmless. After a few failures no harm has been done, which is more than can be said of the old instrument, where failure must needs be accompanied by trauma to the parts. The wire rim will in no way interfere with the function of the tube, nor in swallowing, as has been demonstrated in one case in which the instrument has been in use. Both the introduction and extraction were accomplished without any difficulty, although at the time the mechanical details were not yet completed. The child got well and apparently recovered its voice sooner than I have been accustomed to see it heretofore.

Thanks are due to Mr. L. Pfarre and Mr. F. A. Stohlman, of the firm of Tieman and Company, for the splendid mechanical details and fine execution of this apparatus.

N. B.—Since giving this out for publication several important modifications and improvements have been made. Among others, one causing the obturator to spring automatically out of the tube after releasing the string. They will be fully described in the near future, and a list of cases in which it is hoped the apparatus will have been used will be appended.

154 Henry Street.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 8, 1895.

	Cases.	Deaths.
Tuberculosis	104	115
Typhoid fever	10	5
Scarlet fever	70	17
Cerebro-spinal meningitis	6	9
Measles	333	49
Diphtheria	207	42

The Metric System in Army Medical Practice.—On and after January 1st, of the present year, it was expected that all prescriptions written by Army medical officers in the course of their official duties would have quantity expressed metrically. Notice of this requirement was given in a circular from the Surgeon-General's office in April of last year, so that every one concerned might familiarize himself with the equivalents of ounces and fluid ounces, drachms, scruples and grains in grammes, cubic centimetres and their decimal fractions. It appears, however, that some medical officers found it difficult to get out of the old rut and continued the use of the hieroglyphics and Roman numerals. This was discovered by Surgeon-General Sternberg in his recent inspection of the medical departments of certain military posts. A new circular has therefore been issued, calling attention to this, and stating in positive terms that failure to make use of the metric system will be regarded as a wilful disobedience of orders. Inspecting officers are requested to report officially, through regular military channels, any failure to comply with the instructions promulgated relating to the use of the metric system.—*Journal of the American Medical Association.*

The Treatment of Complete Rupture of the Uterus.—Dr. Cholmogoroff reports the following case: The patient was a multipara who had borne four children by difficult labor, the last of which was terminated by craniotomy, with laceration of the anterior wall of the neck of the uterus (*The American Journal of the Medical Sciences*). The patient recovered completely in three weeks. Examination of her pelvis showed a justo-minor pelvis of moderate contraction. The fifth pregnancy went on normally. When labor commenced, hemorrhage of moderate degree ensued. The patient was under the care of a midwife, who ruptured the membranes. The labor, however, failed to proceed, and the patient was brought into the hospital. On admission, examination showed the fœtus with its long axis parallel with that of the uterus. The head could be felt above the usual position. No heart-sounds were present. On vaginal examination the mouth of the uterus was found fully dilated. In front and to the right could be felt a considerable portion of the placenta. The breech of the child was at the pelvic inlet, the sacrum directed posteriorly and to the left. The right foot was found on the same level with the breech. Hemorrhage, although not excessive, persisted. Accordingly, the right foot of the fœtus was grasped; following this, the hemorrhage did not abate, and accordingly extraction was immediately carried out. As the breech was an inefficient tampon, the hemorrhage continued. The extraction of the child was a most difficult one, and recourse was finally had to craniotomy upon the after-coming head, the opening of the skull being made through the palate. After the extraction of the child, hemorrhage did not entirely cease, and an examination showed the transverse rupture of the uterus at the cervix. The placenta lay in the abdominal cavity among the intestine. The fœtus also had been in the abdominal cavity. After the removal of the fœtus and placenta the hemorrhage did not cease. The condition called for a choice between two methods of treatment, one by cœliotomy, the other by the use of the tampon. As the fœtus had been in the abdominal cavity for some little time, and the entire labor had not been conducted antiseptically, infection of the peritoneum was probable. This would indicate treatment by the tampon. On the other hand, the persistent hemorrhage called for suture of the ruptured uterus. With the idea of accomplishing all that could be done by both, the rent in the uterus was stitched per vaginam through the greater portion of its extent. A long glass tube was passed through the rent into the abdominal cavity, and the vicinity of the rent irrigated with two per cent. solution of boracic acid. A Sims speculum was introduced, the borders of the rent seized with tenaculum forceps, and the greater part of the rent closed by suture. At the left angle of the rent an opening sufficient to admit two fingers was allowed to remain. The bleeding immediately stopped. Through this opening iodoform gauze was passed into the abdominal cavity, and the end allowed to remain in the vagina. The uterine cavity and that of the cervix were tamponed with iodoform gauze; this was allowed to remain for four days, when it was removed and the vagina tamponed with fresh gauze. In eight days the tampon was removed from the abdominal cavity. The patient suffered from mastitis, but otherwise made a good recovery. Cholmogoroff draws attention to this combined method of treating complete rupture of the uterus.

Resection of the Gasserian Ganglion.—Professor Krause has performed this operation several times for trigeminal neuralgia. The effect was in all cases very satisfactory. By this operation it was proved that the trigeminal is the gustatory nerve for the apex and the sides of the tongue.

Professor Marchiafava, of Rome, has been made a Commendatore of the Crown of Italy by King Umberto I.

BACTERIOLOGICAL STUDY OF GONOCOCCUS.

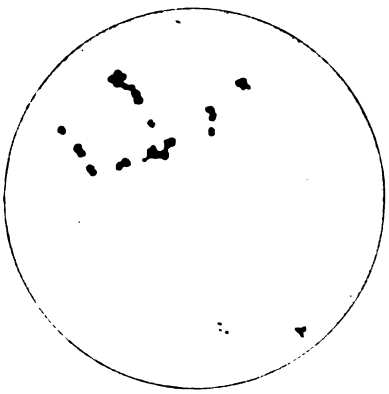


FIG. 1.—Pure Culture of Large Diplococcus from Normal Urethra, Nutrient Agar Plate.

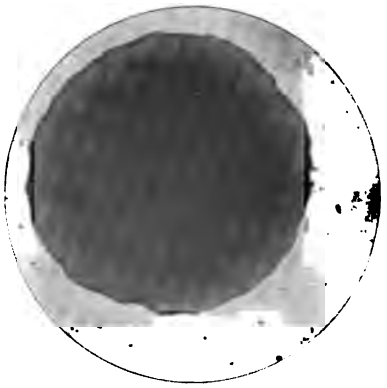


FIG. 2.—Colony of Large Diplococcus from Normal Urethra, on Nutrient Agar.

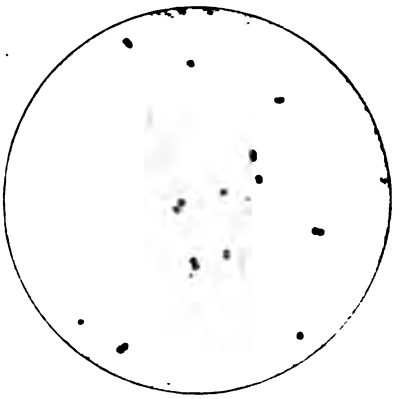


FIG. 3.—Pure Culture of Diplococcus Urethræ (Turro), on Acid Gelatine.

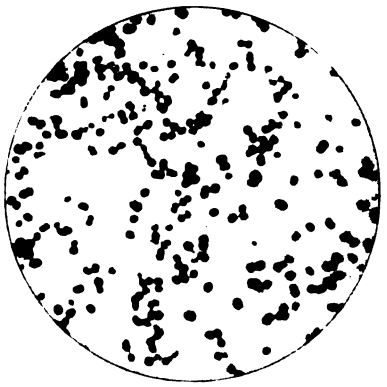


FIG. 4.—Pure Culture of Gonococcus from Male Urethra, on Chest-serum Agar.

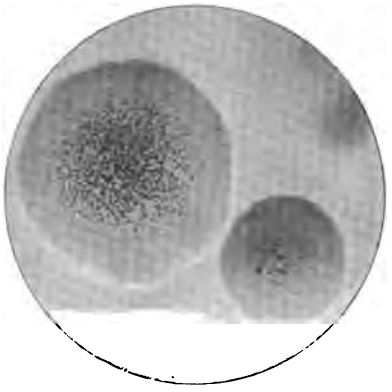


FIG. 5.—Colony of Gonococcus from Male Urethra, on Chest-serum Agar.

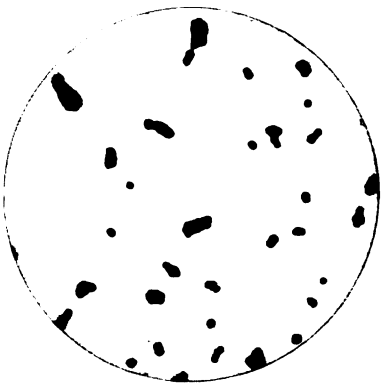


FIG. 6.—Pure Culture of a Diplococcus found in Colpitis Catarrhalis, on Nutrient Agar.

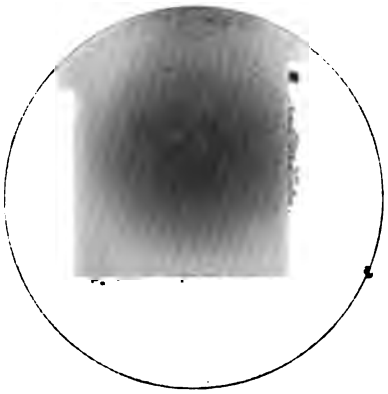


FIG. 7.—Colony of a Diplococcus found in Colpitis Catarrhalis, on Nutrient Agar Plate.

FIG. 8.—Pus from Colpitis Specifica, showing Gonococcus.

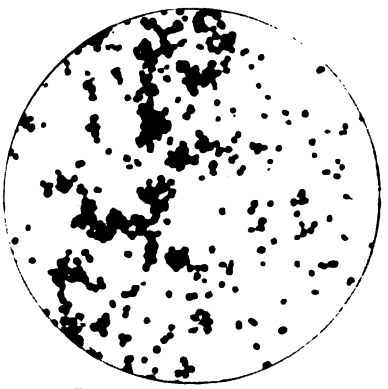


FIG. 9.—Pure Cultures of Gonococcus from Colpitis Specifica, on Chest-serum agar.

FIG. 10.—Gonorrhœal Pus sown on Chest-serum Agar, showing a Pure Gonococcus Culture.

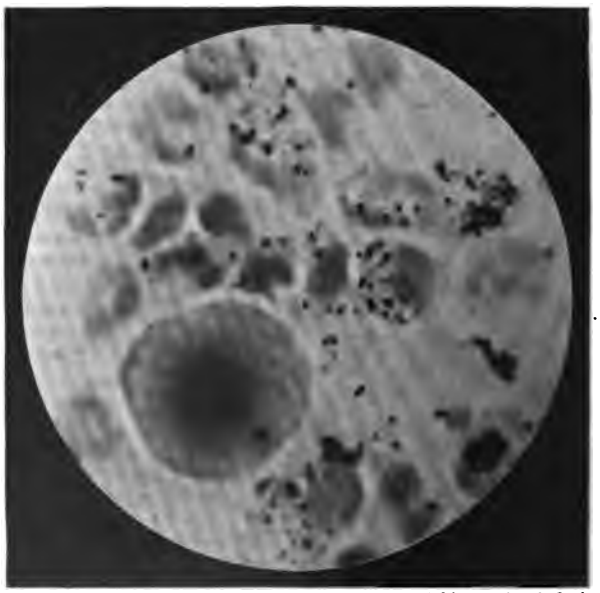


FIG. 11.—Diplococci found in Pus-cells of Catarrhal Colpitis, not decolorised by Gram's Method.

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Original Articles.

A CLINICAL AND BACTERIOLOGICAL STUDY OF THE GONOCOCCUS (NEISSER) AS FOUND IN THE MALE URETHRA AND IN THE VULVO-VAGINAL TRACT OF CHILDREN.

A PAPER BASED ON EXPERIMENTS CONDUCTED IN THE BACTERIAL LABORATORY, COLLEGE OF PHYSICIANS AND SURGEONS, COLUMBIA COLLEGE, NEW YORK.*

BY HENRY HEIMAN, M.D.,

ATTENDING PHYSICIAN TO THE CHILDREN'S DEPARTMENT OF THE MOUNT SINAI HOSPITAL DISPENSARY.

BELIEVING that there is still a doubt in the minds of some medical men regarding the identity of the gonococcus in the male urethra with that of the vulvo-vaginal tract of children, and to clear myself of scepticism, at the same time studying the relative importance of the various theories of others, I planned and executed the following experiments. These studies were made upon material from (*a*), the normal and pathological male urethra; (*b*), the normal and pathological vulvo-vaginal tract of children.

In these experiments I used the various media hitherto employed by others, and also employed a culture medium never published, viz., chest-serum agar, a medium upon which the gonococcus can be readily cultivated and to which it can be transplanted. The method of obtaining this I shall describe below. However, I must state, in fairness to Dr. Kiefer,[1] that he availed himself of hydrothorax and ascites serum simultaneously with my experiments. He also employed the medium recommended by Finger, namely, urine-agar, but without obtaining the results which Finger claimed that he obtained. My experiments further included inoculations of a diplococcus found in the normal urethra and the gonococcus in man and in the lower animals. The clinical material which formed the nucleus of my experiments was obtained in part from the pediatric clinic of Dr. Sarah Welt, at the Mount Sinai Hospital Dispensary, and latterly from the genito-urinary clinic of Dr. Hayden and the pediatric clinic of Dr. Huber, both of the College of Physicians and Surgeons, and from the clinics of Drs. Goldenberg and Dessau, to all of whom I take this opportunity of expressing my deep sense of obligation.

Without wishing to burden you with a history of the gonococcus, it is sufficient to state that we are indebted to Neisser[2] for its discovery in 1879. Since then Bokai,[3] Bockhart,[4] Leistikow,[5] and others have endeavored to obtain a suitable medium for its isolation. To Bumm,[6] however, must be given the credit of first having isolated the gonococcus, the results of his experiments having been published in his elaborate monograph. In 1892 Wertheim[7] described a method of making plate cultures and isolating the gonococcus, which gave very good results. Finger,[8] in June, 1894, believed that he had found urine-agar a good medium for the cultivation of the gonococcus. Turro,[9] in July, 1894, published a preliminary paper on the cultivation of the gonococcus, namely, in an acid medium, acid-gelatin and gelatin-gelose (*i.e.*, gelatin agar).

Examinations of Material from the Normal Urethra.—My experiments were conducted in the following manner: The glans was first thoroughly cleansed with soap and water, the meatus held open while a sterilized platinum hook was carefully introduced into the urethra. In the secretions thus obtained I found on cover-glass preparations short and long bacilli, cocci, and small and large diplococci, some of which corresponded morphologically with the ten kinds of bacteria claimed to have been found in the secretions of the normal urethra by Lustgarten[10] and Mannaberg. I then sowed this material, not only on gelatin and agar plates, but also on chest-serum and blood-serum agar, media which were not employed by Lustgarten and Mannaberg. I will state at the outset that I have not been able to demonstrate the gonococcus in the normal urethra. Of the micro-organisms found in the healthy urethra the large diplococcus predominated, while none of the cocci and diplococci became decolorized by Gram's method. Of the various forms of bacteria found in the normal urethra, I have paid special attention to a large diplococcus.

(Fig. 1.) Name, diplococcus urethra; occurrence, in male urethra. Grouping, diplococci; size, larger than the gonococcus; color, negative; temperature, room and body. Relation to air, aerobic. Gelatin plates, shape more or less circular. Colony: Size, from 1 to 3 mm.; edge sharply defined, regular; texture, granular; color, steel blue refraction, circular spot of refraction. Gelatin tubes, surface culture, slight growth, whitish liquefying; puncture, slight growth and liquefying. (Fig. 2.) Agar plates: shape, circular; size, 2 to 4 mm.; edge sharply defined, irregular; texture, granular; color, yellowish. Agar tubes, abundant surface growth, puncture slight growth, grayish-white appearance. Glycerin agar tubes, surface growth abundant, whitish appearance. Urea agar, puncture slight growth, chest-serum, floccular growth. Potato, grayish white growth. Gelatin-gelose, surface cultures, abundant growth, whitish. The same in puncture. Milk coagulated (reaction acid), forming clot, with small amount of serum. Fermentation broth, faintly turbid, white deposit, no gas formation. Uschinsky's medium, slight floccular growth, clear. Acid-gelatin tube, surface growth, whitish growth, the same in puncture, did not liquefy in gelatin. Wuertz's agar, whitish growth, turned red, acid. Pathogenesis, non-pathogenic.

Examinations of the Material from the Pathological Urethra.—The fact that Turro's acid medium was simple and easily available caused me to utilize it as my first experimental medium for the cultivation of the gonococcus. I have strictly followed his descriptions. Turro tells us that gonorrhœal urine is alkaline, and upon standing becomes acid. In 16 cases examined by me it was found that gonorrhœal urine, immediately after passing, gave in 15 cases an acid and in 1 a neutral reaction; 3 cases were neither treated locally nor internally, the others were treated with salicylic acid. Turro further states that by placing gonorrhœal urine in an incubator for twenty-four hours he obtained a pure culture of the gonococcus, and the addition of one per cent. pepton increased its growth. I repeated this experiment and obtained a diplococcus which did not

* Read before the New York Academy of Medicine, May 16, 1895.

decolorize by Gram's method, and therefore believe it not to be the gonococcus. It is also claimed by Turro that he obtained almost a pure culture of the gonococcus in sowing gonorrhœal pus in sterilized normal urine. In repeating this experiment I obtained also a negative result. I claim that Turro's descriptions were deficient in that he did not state the degree of acidity of his culture medium. In my experiments the degree of acidity of Turro's culture medium, gelatin-gelose, was accurately determined and reacted 0.52 acid to phenolphthaleine. The following gonorrhœal cases were examined :

CASE I.—Pus from male urethra ; aged thirty-five ; duration eight days ; no internal or local treatment. First infection, cover-glass preparations show gonococci decolorized by Gram's stain. Three gelatin-gelose plates were made ; each one presented cocci not decolorized by Gram's method. Involution form observed; the colony and culture appearance corresponded to the description given by Turro.

CASE II.—Pus from vulvo-vagina ; aged two and a half years ; three weeks' standing ; acquired in hospital ; cover-glass preparations show gonococci. Two plates were made. Plate I. showed bacilli ; Plate II., cocci not decolorized by Gram's method.

CASE III.—Pus from male urethra ; cover-glass preparation showing gonococci. Culture experiments with Turro's medium negative.

CASE IV.—Pus from male urethra ; cover-glass preparation showing gonococci decolorized by Gram's method. Plate I. shows gonococci not decolorized by Gram's method.

CASE V.—Pus from male urethra ; cover-glass showing gonococci. Two plates. Cultures simulating in appearance Turro's description, which, however, did not decolorize by Gram's method. Plate I. shows cocci not decolorized by Gram's method. Culture appearance the same.

CASE VI.—Pus from male urethra ; cover-glass shows gonococci ; of the two plates made both showed cocci not decolorized by Gram's method.

CASE VII.—Pus from male urethra ; aged twenty-six ; two weeks' standing. Has had gonorrhœa three weeks ; was treated locally and internally. Cover-glass negative. Plate I. shows a coccus not decolorized by Gram's method, and culture does not correspond with Turro's description.

CASE VIII.—Pus from male urethra ; four weeks' standing ; was treated internally ; no local treatment ; had gonorrhœa previously. Plates I. and II. show cocci not decolorized by Gram's method. Culture appearance corresponding to Turro.

Turro * has successfully inoculated dogs with diplococci, producing a catarrhal urethritis. His result then might be fairly claimed to be the first time that a catarrhal inflammation in the urethra of dogs was produced by inoculation of a micro-organism obtained from the human urethra. Turro attributes his success to an increased virulence of the bacterium by the acid medium. Up to date the only article that has appeared by Turro on this special subject fails to mention the fact that the majority of dogs suffer from either posthitis or balanitis. It is worthy of note that the temperature of dogs fluctuates, the average temperature being 39° C. With your permission I will narrate my own inoculation experiments on dogs with Turro's diplococcus urethræ.

DOG I.—Mongrel race ; male ; had a slight urethral discharge ; cover-glass shows pus ; epithelial cells and numerous bacteria ; cultures taken from urethra on acid-gelatin show cocci not decolorized by Gram's method. Inoculated the diplococcus (Turro) from gelatin-gelose (second generation). After twenty-four hours dog eats little ; discharge somewhat increased. Temperature, 38.7° C. Cultures of material taken from urethra on acid-gelatin and gelatin-gelose and N. agar show cocci not decolorized by Gram's method. N. agar plates show cocci and bacilli, the former not decolorized by Gram's method. Forty-eight hours after inoculation dog eats better ; discharge less ; cover-glass shows pus-cells and bacteria. Seventy-two hours after inoculation dog appears well ; discharge is very scanty ; tongue moist ; appetite is good.

DOG II.—Mongrel race ; male ; has the usual urethral discharge ; cover-glass shows pus-cells, numerous bacteria, and cocci not decolorized by Gram's method. Temperature before inoculation, 39.1° C. The material from the urethra was examined before inoculation on acid-gelatin, agar, and gelatin-gelose ; cocci and numerous other bacteria were found. Twenty-four hours after inoculation with Turro's diplococcus temperature of dog was 39.1° C.; appears to eat well ; tongue moist ; discharge less. Cover-glass shows numerous bacteria and few pus-cells. Forty-eight hours after inoculation, temperature 38.5° C.; other symptoms about the same. Cover-glass shows numerous bacteria. Seventy-two hours after inoculation the dog appears the same as before inoculation.

Believing that my experiments were deficient on account of the degree of acidity of my medium, I thought it advisable to repeat them. My second medium of gelatin-gelose and acid-gelatin responded respectively 0.40 and 0.42 acid to phenolphthaleine. I then examined ten other cases of gonorrhœa of various duration. Cover-glass preparations before sowing pus on medium showed gonococci decolorized by Gram's method. I again obtained characteristic cultures as described by Turro ; a diplococcus about the size of the gonococcus which did not decolorize by Gram's method. This important differential test of the gonococcus (Neisser) from other diplococci in the urethra was not mentioned in his paper. Inoculation experiments on dogs with acid-gelatin culture, 0.42.

DOG III.—Mongrel race ; male ; rectal temperature, 39.1° C. ; presents slight discharge from urethra. Cover-glass from material from urethra shows pus-cells and numerous bacteria before inoculation. I inoculated this dog with Turro's diplococcus. Forty-eight hours after inoculation cover-glass shows pus-cells, small cocci, and numerous bacteria. Cultures taken from urethra on acid-gelatin show bacilli ; those on chest-serum agar show cocci not decolorized by Gram's method. Sixty hours after inoculation dog's condition about the same.

DOG IV.—Temperature, 38.6° C. ; presents discharge. Urethra examined ; cover-glass shows the same as Dog I. Cultures, before inoculation on gelatin-gelose, acid-gelatin, and chest-serum agar, show short bacilli and cocci, the latter not decolorized by Gram's method. Inoculation with the diplococcus urethræ (Turro's) gave the same negative results.

DOG V.—Pug. Temperature, 39.4° C. ; slight discharge. Cover-glass preparation shows the same result as in the other dogs. Cultures before and after inoculation gave also the same result. On account of the severe secondary symptoms following the inoculations as described by Turro, I examined the last two dogs two weeks later and then found them in the same condition as they were before inoculation. I noticed in a paper published by Dr. Wright,[12] of Boston, a foot-note stating that his experiments after Turro's were negative. In reading Turro's article one is impressed with the earnestness of his convictions and conclusions. Nevertheless they are open to the objection that he made no inoculations with his diplococcus in the human being.

The following is the bacterial analysis table of the diplococcus found in the acid media from specific urethritis and corresponds partially to Turro's description (Fig. 3) :

Name. Diplococcus culture, four days' growth.
Occurrence. Male urethra.
Size of Diplococcus. Corresponding to gonococcus.

* Lundström : His inoculations on dogs with a diplococcus from the male urethra resulted in an ulcerative urethritis.

Grouping. Diplococci.
Relation to gelatin. Does not liquefy.
Color. None.
Temperature. Room and body.
Relation to air. Aerobic.

Gelatin plate. Shape circular, size 2 to 5 mm., edge sharply defined and irregular, texture coarsely granular, color yellowish; most colonies, have circular spots of higher refraction.

Gelatin tubes. Surface growth grayish-white appearance; does not liquefy. Gelatin puncture, deep growth, did not liquefy on tenth day.

Glycerin-agar tubes. Surface growth gray, white appearance, abundant growth, more than on agar and gelatin.

Broth. Heavy deposit, somewhat turbid.

Fermentation Broth. Both arms turbid, faint pellicle, no gas.

Agar Tubes. Surface growth at room temperature, grayish color.

Potato. Gray-whitish, abundant growth. Milk, whitish deposit, consisting of diplococci; reaction acid.

Urea Agar. Surface growth slight, growth appears gray.

Puncture. Grayish, slight growth.

Uschinsky's culture. Floccular, whitish appearance.

Gelatin plates. Culture appearance as tops of ivory balls (Turro), after a few days appearing like narrow band or tape.

Acid-gelatin Tubes. Surface growth grayish-white appearance.

Puncture. Deep growth, grayish-white appearance.

Gelatin-gelose plates, corresponding to appearance as on gelatin plates, except more abundant in growth at body temperature, and less transparent. Colony, shape irregular, size 3 to 5 mm., edge sharply defined, irregular, texture coarsely granular, color yellowish, colonies have circular spots of higher refraction.

Gelatin-gelose Tubes. Surface culture grayish-white appearance. Puncture, whitish, growth turned red.

Chest Serum. Abundant floccular growth, turbid. Wuertz's agar, surface culture grayish-white, growth turned red, acid.

My results of the experiments described by Turro having proved unsatisfactory, and being anxious to investigate the subject more thoroughly, I took up the work of Finger, Ghon, and Schlagenhaufer. These writers claim that the best medium for the cultivation of the gonococcus is urine-agar, which consists of one part either sterile or sterilized urine, plus two parts neutral or slightly alkaline broth, containing two per cent. agar and one per cent. pepton, but no salt. According to Finger sterile urine with agar furnishes the best medium for the gonococcus; nevertheless he does not state how he obtained sterile urine. This would be very interesting. Much of my time was devoted to this point. My first experiment consisted in sterilizing a flask, then cleansing the urethra and glans, especially the meatus, and instructing the patient to urinate directly into the sterilized flask. Placing the urine of five of these cases in flasks in the incubator for twenty-four hours numerous bacteria were found to have been developed. The precaution was taken that the first half of the urine should wash out the bacteria of the urethra. Even this gave a negative result. With properly prepared agar test-tubes, in order to avoid contamination, I then instructed the male subjects to pass the second half of the bladder contents directly into these test-tubes. Petri's plates containing this medium developed at body temperature after twenty-four hours bacteria, and after forty-eight hours deep colonies developed in test-tubes containing N. agar plus urine. My first results with urine-agar for sowing gonorrhœal pus from urethra are as follows:

Case I.—Agar plus sterile urine?* as medium. Urine, 0.53 acid to phenolphthaleine; specific gravity, 1.023. Male, aged twenty. Gonorrhœa, five days' duration. First attack; no local or internal treatment. Cover-glass shows gonococcus decolorized by Gram's method. Plate cultures show bacilli, cocci, diplococci; the last not decolorized by Gram's method.

Case II.—Urine-agar sterilized urine. Male, aged twenty-one. Gonorrhœa, three months' duration. First attack; treatment internal and local. Cover-glass from plate culture shows cocci and diplococci not decolorized by Gram's method.

Case III.—Culture-agar and sterilized urine. Male, aged twenty-four. Gonorrhœa, four weeks' standing. First attack; treatment internal only, no local. Plate culture, same results as above.

Case IV.—Sterile urine. Male, aged nineteen. Gonorrhœa, two weeks' standing. First attack; treatment internal only. Cover-glass from urethra shows gonococcus decolorized by Gram's method. Plate cultures showed various colonies, few corresponding to those described by Wertheim. These colonies show diplococci which decolorized by Gram's method.

Case V.—Urine-agar plus sterile urine? Male, aged twenty-four. Gonorrhœa, three weeks' standing. Cover-glass from urethra shows gonococci decolorized by Gram's method. Plate cultures negative.

Case VI.—Urine sterile? Male, aged twenty-two. Two months' standing. Internal but no local treatment. Cover-glass shows gonococci decolorized by Gram's method. Plate culture shows cocci and other bacteria and diplococci, but no gonoccoci.

Case VII.—Agar plus sterile urine? Male, aged twenty-five. Gonorrhœa, three weeks' standing; internal treatment only. Cover-glass from urethra shows gonococci decolorized by Gram's method. Plate cultures, numerous colonies, few characteristic gonococci colonies, which decolorized by Gram's method.

Case VIII.—Agar sterile urine? Male, aged twenty-two. Two weeks' standing; second attack; internal treatment only. Cover-glass from urethra shows gonococci decolorized by Gram's method. Plate culture negative.

The first series of experiments with urine-agar were rather discouraging to me, as I believed that the sterile urine would probably have enhanced its virtues as a medium. In this connection I must say that Dr. Alexander Lambert, of this city, kindly suggested and prepared for me Kitasato's filter as modified by him. Such a filter was attached to a Sprengel air-pump. In this manner I obtained sterile urine. For control experiment the urine was kept at body and at room temperature, but no development of bacteria followed. The urine before filtration reacted acid, specific gravity 1.021, and despite filtration its specific gravity and acidity remained unchanged, a point worthy of notice. Having then obtained sterile urine I had hopes of securing a perfect urine-agar medium, but my anticipations were not realized, inasmuch as the sterile urine did not cause gonococci to grow more abundantly, nor could I demonstrate any better growth of gonococci on plate or test-tube cultures. It is needless for me to state that I was careful to select pus as far back from the meatus as possible in order to avoid the probability of mixed bacteria. Encouraged, on the one hand, to find the gonococccl on urine-agar with Petri's dishes, I was discouraged, on the other hand, that I could not employ, as Finger also admits in his article, the urine-agar as a transplantation medium. It is a deplorable fact that while we have thus an available medium for the cultivation, we have not in urine-agar a perfect transplantation medium. The property of immediate transplantation I regard as an important adjuvant in the study of the biology of the gonococcus. In this connection the medium of Bumm also Wertheim's placenta-serum agar medium, have proven of inestimable value to me.

Placenta Blood-serum.—I strictly followed the di-

* The interrogation point is used to indicate the fact that the urine employed was as near sterile as could be obtained at the time.

rections of Wertheim in the preparation of placenta blood-serum, but not in the application of it. For the purpose of obtaining placenta blood, I availed myself, through the courtesy of Dr. Tucker, of the facilities provided by the Sloane Maternity, New York. For convenience I have had the placenta blood collected in sterilized potato-culture test-tubes about one-half full. I could then easily separate after an hour or more with a sterilized thin glass rod the coagulum within the large test-tubes. After twenty-four hours' standing in the refrigerator I drew off with a sterilized pipette the expressed serum into a smaller-sized sterilized test-tube. This was allowed to stand another twenty-four hours in the refrigerator, so that the remaining red corpuscles could settle to the bottom; the straw-colored serum was then decanted into another sterilized test-tube and placed into a liquid blood-serum sterilizer, for the purpose of sterilizing the liquid blood-serum by fractional sterilization at a temperature of 65° to 68° C. for one hour on each of six consecutive days. To control the sterilized serum tubes they were placed in the incubator for forty-eight hours. The tubes containing two parts of agar were liquefied, then allowed to cool off, and placed in a water-bath at 40° C., together with tubes containing serum one part. They were then poured out in Petri's plates and then into sterilized test-tubes as the transplantation medium. Incidentally I would state that in many instances pus was kept in sterilized test-tubes and taken to the laboratory five or six hours after withdrawing it from the urethra, then it was sown on plates, and in nearly every case, twenty in all, the gonococcus (Neisser) was obtained and isolated. In sowing the pus on surface cultures I obtained a similar result, especially in fresh cases of gonorrhœa, just as Wertheim did when he diluted the secretions in the serum tubes, and then mixed them with agar and poured out the pus-inoculated medium on plates. In chronic gonorrhœa I would prefer the method described by Wertheim. Thus if gonococci are present, no matter in how small a number, we are almost certain to find some single deep or surface colonies of the gonococci. After twenty-four hours I have seen colonies of the gonococci as described by Wertheim, and was always able to transplant them into chest-serum agar test-tube cultures. That I was dealing with the gonococcus (Neisser) I will show later on, in describing my inoculation experiments.

The Gonococcus Analysis Table is as follows:

Name. Gonococcus (Neisser). (Fig. 4.)

Occurrence. Urethra, vaginal tract.

Form. Diplococci.

Grouping. Mostly Diplococci.

Size. 1–4 m. Stains with aniline dyes, best with alcoholic two per cent. methyl violet solution. Gram's stain becomes decolorized.

Relation to air. Aerobic.

Temperature. At body temperature only.

Action on Gelatin. No growth.

Milk. No growth.

Smith-tube. Gas formation, no growth.

Gelatin Puncture. No growth. Surface colonies, no growth. Deep colonies, no growth.

Gelatin Plate. No growth.

Agar Plate. No growth. Agar tubes, no growth. Puncture or surface.

Glycerin-agar Plates. No growth. Tubes, puncture or surface, no growth.

Urea-agar. No growth.

Uschinsky's Medium. No growth.

Loeffler's Coagulated Blood-serum Tubes. No growth.

Wuertz Agar. No growth.

Wuertz Agar + Placenta-serum. Whitish gray growth. Medium turned faintly red.

Rosolic Acid Broth. No growth.

Meat Broth. No growth.

Potato. No growth.

Acid-gelatin Plate. No growth.

Tube Puncture Surface. No growth.

Gelatin-gelose Plates. No growth.

G. G. Tubes. No growth.

Urine-Agar Plate. Slight growth, corresponding to description which I propose to give on blood-serum agar plates.

Urine-agar + Sterile Urine. Slight growth.

Urine-agar + Urine Filtered. Slight growth.

Urine-agar Test-tubes. Surface slight growth. Puncture no growth.

Acid-gelatin + Placenta Serum. No growth.

Gelatin-gelose + Placenta Serum. No growth.

Glycerin-agar + Placenta Serum. Slight growth on surface.

Two per cent. Agar + Sheep-serum. Plates, slight growth.

Tubes. Surface slight growth.

Two per cent. Agar minus Salt + Sterilized Placenta Serum. Slight growth. Tube, surface slight growth.

Two per cent. Agar minus Salt + Chest-serum. Plates abundant growth. (Fig. 5.) Colonies shape circular. Edge somewhat irregular. Shading off into yellow-white. Texture finely granular in periphery. Color yellowish. Presents punctated spots of higher refraction in and around centre, chest-serum agar tube more abundant than on placenta, sheep-serum, or ascites fluid. Appearance, grayish-white. Puncture growth, grayish-white appearance.

Two per cent. Agar minus Salt + Filtered Chest-serum Plates. Considerable growth. Tubes, surface growth, slight growth grayish-white appearance, serum presenting small, crystal-like bodies.

Pathogenesis, pathogenic.

Morphology.—Gonococci are found mostly in pus-cells (Fig. 8) and at times in other portions of the field, a fact probably due to the mechanical effect of smearing the pus on cover-glass or slide. They appear generally in pus-cells, as diplococci, coffee-bean in shape, or in groups of two or four, generally extra-nuclear. In pure cultures they appear as diplococci. (Fig. 9.) At times they appear as round diplococci of various sizes, especially in older cultures. Others again are irregular in shape or granular in appearance. In this connection it must be remembered that the gonococcus possesses the peculiarity termed in bacteriology "involution form" in older cultures.

In my cultures of chest-serum agar, at the expiration of about twenty-one days this so-called "involution form" was very apparent, so much so that the micro-organism was barely recognizable as the gonococcus; nevertheless in transplanting this culture I obtained a gonococcus growth on chest-serum agar. A culture sixty-two days old, and a second one hundred and two days old, showed in cover-glass preparation nothing resembling a gonococcus. All that could be seen was a granular mass which by Gram's method became decolorized. In view of the diversified appearance of the gonococci in older cultures under these varying conditions, opinions vary as to the longevity and virulence of the gonococcus in chronic forms of disease. From a medico-legal and social stand-point the practical bearing of this matter is very evident. Thus candidates for marriage who are victims of a chronic urethritis and who seek advice in regard to the advisability of their contemplated marriage can only receive an affirmative opinion, providing a thorough clinical and bacteriological examination of the secretions are executed in the following manner:

Cover-glass preparation on three consecutive days must be examined with a microscope provided with a mechanical stage and by Gram's method. Should these specimens prove negative, to exclude any possibility of doubt, cultures should be made on chest-serum agar on three consecutive days, and for such an important examination I would not recommend a surface culture

but a series of diluted chest-serum test-tube inoculations as described by Wertheim.*

The Gonococcus as Found in the Human Economy.—Up to date a perusal of the literature of the subject brings to light the fact that gonococci are reputed to have been found in the following regions and in about the following order of frequency: Male urethra, vulvo-vaginal tract, vesical bladder, eye, peri-urethral abscesses, glands of Bartholini, joint effusions, kidney, Fallopian tubes, peritoneum, rectum, and mouth.

The Staining of the Gonococcus by Aniline Dyes.—Of the various dyes used—Bismarck brown, safranin, methylene blue, fuchsin, gentian-violet, and malachite-green—I found that fuchsin and gentian-violet are faulty in that they stain too intensely. Success with the use of these dyes depends, no doubt, upon the skill with which a thin film is smeared on the glass. As the best method for ordinary staining I would recommend a two per cent. alcoholic methyl-violet solution. This is practically a differential stain, and consumes but thirty seconds in its execution. As a practical double stain, I employed Schütz's [13] and Lanz's [14] methods.

Having thus passed in review the various methods commonly employed for the detection of the gonococcus and for its differentiation stain, I am forced to the conclusion that any procedure which does not include Gram's [15] method is imperfect and unreliable. His method is the only reliable one for the differentiation of the gonococcus from all other diplococci found in the healthy urethra and vulvo-vaginal tract. So careful an observer as Friedlander goes further and states it is the ideal method of staining bacteria. In looking over the literature of Gram's stain, I find that a great many writers obtained different results with it. This, to my mind, is not surprising on account of finding in our text-books on bacteriology descriptions which differ materially from each other. Those of you who are interested in this particular theme can readily become convinced of the correctness of this statement by looking up any of the following authors: Crookshank, Flügge, Fraenkel, Günther, Heim, Sternberg, Hueppe, Von Jacksch, O. Israel, etc. E. C. Wendt,[16] New York, credits Roux [17] with having first found that the gonococcus becomes decolorized by Gram's method. Gram in 1884 gave us an excellent description of his method. This stain was accidentally discovered by him while engaged with aniline gentian-violet sections that were placed in iodine solutions. This led him to study the subject more in detail, with the result that he gave us an excellent method for staining bacteria in sections and cover-glass preparation. In the preparation of the aniline gentian-violet solution Gram refers us to Friedlander's book, and out of the many solutions found therein I have selected the Koch, Ehrlich, aniline-water, gentian-violet solution, as the best for illustration. I have prepared it as follows: To 10 c.c. of water add 2 c.c. of aniline oil, shake well and filter through moist filter-paper. To the clear aniline-water obtained add 1 c.c. of ninety-seven per cent. alcohol and 1 c.c. of a concentrated alcoholic gentian-violet solution. I have given these proportions, as this is about the quantity required for ordinary staining. After passing the cover-glass quickly through the flame, it is then placed in this solution from two to three minutes. Gram next advises that the cover-glass may be washed in alcohol or not. I preferred to drain off the excess on filter-paper without washing in alcohol. The cover-glass is then placed for five minutes in Gram's iodine solution, which consists of iodine, 1 part; iodide of potash, 2 parts; water, 300 parts, and then placed directly into alcohol ninety-seven per cent. in order to wash out all the coloring matter. It is sometimes advisable to renew the alcohol. Now wash the cover-glass well in water and place it in a Bismarck-brown solution, which consists of a concentrated aqueous Bismarck-brown solution, 1 part; water, 5 parts, for one or two minutes, then wash in water and mount in balsam. For differential stain, instead of Bismarck brown I have employed fuchsin and safranin, only to find that the Bismarck brown gave the best results. It is to be regretted that we have not at present a specific stain for the gonococcus, as we have for the tubercle bacillus.

Description of the Various Culture Media Employed for the Gonococcus.—In 1885 Bumm first successfully cultivated the gonococcus, using a mixture of beef and human blood-serum. Then Wertheim employed the placenta blood-serum described by me above. My charts have shown that of all media used for cultivation, the chest-serum agar gives the most abundant growth of the gonococcus. Various other fluids of the human body have been employed by different investigators with varying results—peritoneum serum, chronic synovitis effusions, hydrocele and pericardial fluids, the fluid contents of ovarian cysts, and hydrosalpinx fluid. I have employed placenta serum, sheep blood-serum, peritoneum serum, filtered chest-serum, and found that liquid sterilized chest-serum plus two per cent. agar broth plus one per cent. peptone with or without one-half per cent. salt, gave me the best results. This fact I could attribute only to the great amount of serum albumin found in chest-serum. The value of this serum can be demonstrated by placing a flask containing chest-serum in a refrigerator, allowing it to stand over-night, when we will find a clot has been formed and that the supernatant serum appears to be of a more tenacious consistency than placenta, peritoneum, and beef serum, when treated in the same way. I strictly controlled my experiments with plate and test-tube cultures by mixing sterile beef-serum with two per cent. agar, sterile peritoneum serum plus two per cent. agar, beef-serum plus two per cent. agar, placenta serum plus two per cent. agar, chest-serum plus two per cent. agar, and found that of all these chest-serum plus two per cent. agar, etc., showed the most abundant growth of the gonococcus in plate and in test-tube cultures. One of the plates will show almost a pure gonococcus culture obtained from urethral pus. (Fig. 10.) The chest-serum was obtained in one case from a patient suffering with hydrothorax, with a temperature of 38.3° C. In another case, from a patient suffering from an acute pleuritis, with a temperature of 39.5° C. From each case one litre was withdrawn.* I rarely found it necessary to pour the supernatant chest-serum into another test-tube, as is done in placenta serum, owing to the number of red blood-corpuscles present in the latter serum. Not being satisfied with these results and desiring to avoid the long and tedious fractional sterilization of liquid serum, I was anxious to obtain a method of obtaining sterile serum, as I obtained sterile urine. I therefore resorted to the filtration method. I found chest-serum on account of its tenacity difficult of filtration. At the rate of six hours per day for one week, using Reichel's filter with the aid of Sprengel's air-pump, only 200 gm. of filtered chest-serum were obtained. In order to render the chest-serum more liquid, I first filtered it through sterilized absorbent cotton, placed in a sterilized glass funnel, but this gave about the same result. The only advantage derived from the filtered sterile serum was its extremely clear appearance. For the cultivation of the gonococcus, however, in plate and in test-tubes, it gave a less abundant growth than the sterilized chest-serum and gave a result about equal to that of placenta-serum agar.

In my efforts to procure sterile serum I followed the suggestion of Dr. Prudden, namely, to add to the chest and peritoneum serum kept in sealed flasks and test-tubes one-half per cent. or one per cent. of

* It would be advisable to produce an artificial urethritis with a nitrate of silver solution for the purpose of bringing gonococci to the surface.

* To Dr. Ewing I am indebted for supplying me with chest and peritoneum serum.

chloroform. Before adding chloroform, control experiments were made in the following way: a half dozen test-tubes containing peritoneum serum were left uncorked and exposed to the air for forty-eight hours; a second half dozen containing peritoneum serum were at once sealed after one per cent. or one-half per cent. chloroform was added. At the end of forty-eight hours chloroform was added to the uncorked tubes, which were then sealed. Thirty days later a great number of bacteria were nevertheless found in the half dozen test-tubes that were at first left exposed to the air. Among the second half dozen test-tubes were a few containing no bacteria. These were treated with agar, peptone, and salt, and could be used as a culture medium, notwithstanding the addition of the chloroform. I regret to say that I could not complete these experiments for this publication.

Studies in the Normal Vulvo-vaginal Tract in Children.—In looking over the literature on this subject, I found that little has been written. The most frequent allusions to this topic is in connection with the vulvo-vaginal tract during pregnancy. Döderlein [18] examined the lochial discharges and found that, where the lochia were profuse, staphylococci and streptococci were abundant. Krönig [19] also found streptococci and staphylococci and believed that the streptococci become non-virulent owing to the hyperacidity of the vaginal secretions. G. Thomen [20] found in three out of seven cases of lochial discharge streptococci, although none could be demonstrated in the vagina and cervix. My investigations in connection with the normal vulva were principally made for the same purpose as those in the normal male urethra—that is, I endeavored to ascertain various kinds of bacteria which cover-glass preparations and ordinary culture media bring to light. I also studied the vulvo-vaginal secretions and urethra of children, employing media upon which the gonococcus thrives. Out of twenty cases examined in this manner, in no single instance have I been able to demonstrate the gonococcus (Neisser). Cover-glass preparations showed epithelial cells, and in some cases quite a number of pus-cells, numerous bacteria, cocci, diplococci, short bacilli, large pear-shaped bacilli with possible spore formation (?), smegma bacilli, and spirilla. The age of the children examined varied between three months and thirteen years. The secretions were taken from all parts of the vulva, without cleansing the parts at all. Whenever urethral discharge was taken the vulva was cleansed with water. I have met a class of cases with very slight muco-purulent discharge which the parents were not aware of. Then again there were other cases whose only symptom was enuresis. This latter class of children attracted my attention especially, as they turned out to be simply a catarrhal colpitis, clinically and microscopically. Cover-glass preparations showed a great number of pus-cells, containing diplococci, partly resembling in size and form the gonococcus (Neisser), also small cocci and numerous other bacteria. (Fig. 11.) These diplococci were found independently of the methods of Bockhart, E. Fränkel, Koplik, and others. This fact led me to believe that if there was such a micro-organism as a pseudo-gonococcus, the diplococci of the vulva, found in the pus-cells and partly resembling the gonococcus, these certainly would deserve the denomination.

I believe that the term pseudo-gonococcus as at present applied is apt to mislead. It would be wiser to term the micro-organism found in the pus-cell of the catarrhal form of colpitis, diplococcus colpitis catarrhalis. Whether this micro-organism is pathogenic and infectious, I am not prepared to state at present. After I had examined the discharges of my catarrhal colpitis cases which clinically did not appear as gonorrhœal cases and obtained negative results, I came to the conclusion that these cases of colpitis must be attributable either to the diplococcus found and isolated by Bockhart or to causes as yet unknown. The best proof of the correctness of this assertion is the fact that these diplococci found in the pus-cells, which partly resemble the gonococcus, will not decolorize by Gram's method, as my plates and slides will show. Bockhart in 1886 gave a thorough description of a small diplococcus found in the vagina and proved it to be the origin of non-specific urethritis. He was able to secure a fair growth of these small diplococci on agar plates and a more abundant growth on blood-serum at body temperature. His inoculation experiments with the small diplococcus in the human urethra gave a positive result. He produced an artificial urethritis, the secretions of which showed the small diplococci in pus-cells. E. Fränkel [21] describes cases of endemic infectious colpitis which I believe to be analogous to Bockhart's. E. Fränkel inoculated the eyes of rabbits with secretions from catarrhal colpitis cases, with negative results. His inoculation on the human eye gave a positive result. In one out of three inoculations he observed on the fifth day a catarrhal condition of the eye, the secretion from which gave the same diplococci as those in the secretions of the vagina. He does not mention the Gram stain at all for cover-glass preparations, except as applied to sections, and even then found no bacteria. In a later announcement he describes experiments in trying to isolate this diplococcus. He obtained several forms of diplococci described by Bumm, and a diplococcus not described by Bumm, with which he inoculated the human eye with negative results. On one occasion he produced in his inoculation experiments a purulent conjunctivitis in a rabbit which lasted five days, but could not find the characteristic diplococcus on account of the prevalence, as he claimed, of other bacteria. This experiment of E. Fränkel would appear fallacious, owing to the fact that secretions and not pure cultures were employed. E. Fränkel considers his diplococcus to be the real gonococcus, only modified in its behavior from its successive growths. My attention was specially directed to a diplococcus found in the catarrhal form of colpitis. This micro-organism simulated in appearance the one found in the pus-cell of the secretions of catarrhal colpitis. I studied the biology of this diplococcus, as my table will show. (Fig. 6.)

DIPLOCOCCUS.

Occurrence. In catarrhal form of colpitis of children.
Form. Diplococci and cocci.
Grouping. Diplococci and cocci.
Size. About size gonococcus, 1 to 4 micro-millimetres.
Color. None.
Temperature. Room and body.
Relation to Air. Aerobic.
Gelatin Plates. Colony.
Shape. Circular and elliptic.
Size. From 3 to 5 micro-millimetres.
Edge. Sharply defined.
Texture. Coarsely granular.
Color. Yellowish brown refraction.
Gelatin Tubes. Slight surface growth, whitish appearance. Did not liquefy. The same in puncture. Acid-gelatin plate. Texture finely granular, otherwise the same as in nutrient gelatin plate. Acid-gelatin surface, slight whitish growth not liquefying, the same in puncture.
Nutrient agar plates.
Colony. Shape circular. (Fig. 7.)
Size. 3 to 5 mm.
Edge. Sharply defined, regular.
Texture. Granular.
Color. Yellowish.
Nutrient Agar Tubes. Abundantgrowth, pale yellow.
Glycerine Agar Tubes. Slight surface growth, whitish gray.
Urea Agar. Surface culture and puncture, no growth.

Chest-serum. Floccular deposits; medium clear.

Potato. Yellowish growth; slightly spreading.

Milk. Some white sediment; reaction acid; not coagulated.

Fermentation Broth. Growth in both arms but cloudy in long arm; white deposit; slight pellicle.

Uschkinsky's Medium. Slight growth; clear.

Wuertz's Agar. Abundant growth on surface medium; becomes blue above; lower part unchanged; alkaline; the same in puncture.

Pathogenesis. Negative in one case in the normal male urethra.

Vulvo-vaginitis of Children.—Vulvo-vaginitis, urogenital blenorrhœa, or colpitis gonorrhoica in its various forms must have been just as prevalent years ago as it is to-day, only that its nature and causation were less understood. Little was mentioned of this condition in the medical works of the day. Thus in such old works as that of Adolph Hencke,[22] 1821, and that of C. M. Billiard,[23] 1850, no mention whatever is made of vulvo-vaginitis. Mr. Bouchut[24] in 1855 does not mention anything of vulvo-vaginitis. Dr. W. H. Day[25] in 1881 describes discharges of a muco-purulent character during dentition from intestinal irritations, ascarides in the rectum after scarlet fever and other fevers, but does not mention its identity with gonorrhœa. Vogel[26] in 1887 describes catarrhal and gonorrhœal forms of vulvo-vaginitis. Ashby and Wright,[27] 1889, speak of vulvo-vaginitis and state it is due to neglect, dirt, irritation by thread-worms, and at times the result of contact with the discharges from vulvitis. J. Lewis Smith[28] in 1890 speaks of a catarrhal and gonorrhœal variety. In Keating's Encyclopedia,[29] 1890, vulvo-vaginitis is considered in two varieties; first, a simple catarrh due to dirt, irritation, etc., and the infectious varieties due to the gonococcus. Henoch[30] in 1892 described an infectious form, but states that he attaches little importance to such gonorrhœal secretions for the reason that gonococci can be demonstrated in cases of vulvo-vaginitis, in which no history of gonorrhœa can be proven. Baginsky[31] in 1892 describes a vulvo-vaginitis due to mechanical irritation or to worms; second, vulvo-vaginitis catarrhalis et blenorrhoica caused by the same factors, and also mentions an endemic form of vulvo-vaginitis due to an organism similar to the gonococcus, or depending upon the gonococcus. I can indorse his opinion. I have found the true gonococcus and another diplococcus in pus-cells in one and the same specimen, the true gonococcus showing the decolorization by Gram's method, the other diplococcus in the pus-cells partly resembling the gonococcus, retaining the aniline gentian-violet stain. Baginsky also describes other varieties of vulvo-vaginitis. Starr,[32] 1894, divided vulvo-vaginitis into a catarrhal or irritative and a gonorrhœal form.

On reviewing the literature on the clinical and bacteriological studies of vulvo-vaginitis, I find as early as 1878, in an article written by J. Morris,[33] that mention is made of the fact that girls have been infected through the agency of clothes, and of the difficulty of differentiating the specific from the non-specific variety. Neisser[34] states that fluor vaginæ is due to the gonococcus and that ordinary vaginal secretions contain all forms of bacteria, except gonococci. Pott[35] regards purulent vaginitis to be of specific origin and gives other causes. Cseri[36] found the two varieties of diplococci in pus, and claims that the one variety is identical with E. Fränkel's diplococci. He cites, however, no culture experiments. Dusch[37] reports an epidemic of vulvo-vaginitis in hospital practice, and speaks of the possible infection by the use of the same thermometers, chambers, toys, etc. Hofmokl[38] speaks of a spontaneous occurrence of vulvo-vaginitis, and as special etiological factors cites malnutrition, scrofulous, tuberculous, rachitic, and specific affections, scarlet fever, measles, scabies, masturbation, oxyuris-vermicularis, and states that he has observed the same trouble in apparently healthy children. He rarely observed the gonorrhœal type, and gives the age of occurrence between eight and twelve years. No microscopical examinations were made by him. Spaeth[39] reports vulvo-vaginitis cases to be of gonorrhœal origin. No cultures were made by him. R. Skutsch[40] cites the case of two hundred and thirty-six school-girls who were attacked with vulvo-vaginitis after bathing. Some of these girls were afterward affected with ophthalmia blennorrhoica.

Epstein[41] gives no etiological data for catarrhal vulvitis except uncleanliness, and uses the term "desquamative catarrh." Cassel[42] gives accurate clinical and microscopical descriptions of cases, but he does not state that he employed culture media. Martin[43] claims that the differentiation between gonococci and other diplococci found in pus-cells must be still considered impossible. In refutation, so far as my experiments go, they seem to prove that this matter of differentiation of the various diplococci is not *sub judice*, but a certainty by the aid of Gram's method. The inoculation experiments of Martin in the male urethra are open to the serious objection that he did not avail himself of a pure culture but simply of the secretions. Koplik[44] describes a diplococcus found in the pus-cells of the secretions of diseased vulvo-vaginæ of children. He enumerates three varieties of vulvo-vaginitis, viz.: that due to uncleanliness, manifesting itself by painful micturition and a slight serous discharge; second, a catarrhal type with slight purulent discharge; and, third, a true gonorrhœa. E. Berggrün[45] examined bacteriologically thirty-one cases of vulgo-vaginitis, eleven of which gave positive results on cover-glass preparations and on blood-serum agar; Berggrün himself admitting, in the case of catarrhal type of vulvo-vaginitis, his inability to ascribe a reason for this. He divides his purulent cases first into a specific type; second, a type due to trauma, and third, a catarrhal form which he believes to be infectious.

Experiments on the Vulvo-vaginal Tract of Children.—It is a notorious fact that in many instances the etiology of vulvo-vaginitis of children is shrouded in an atmosphere of obscurity. There is, however, another class of cases in which the etiological factor can be readily ascertained to be a direct infection from adult to child. The endemic variety originates at times in hospitals. Many cases that came under my observation at my clinic in the Mount Sinai Hospital Dispensary gave such a history of origin. These patients, it was also ascertained, presented on closer inquiry no symptoms referable to the vulvo-vaginal tract, on their admission into the hospital, where the infection took place. An important truism derived from the knowledge is that in isolation we have a preventive for the spread of vulvo-vaginitis. I believe the law which makes it compulsory to isolate such infectious diseases as diphtheria, scarlet fever, etc., would be just as applicable to cases of vulvo-vaginitis. The consensus of opinion seems to be unanimous on this point, that stuprum or direct contact, bedding, bath-tubs, thermometers, clothing, toys, chambers, closets, instruments, etc., are carriers of the poison of the disease. It is to be regretted that up to date no perfect classification of the various types of vulvo-vaginitis is extant. The classifications hitherto offered for acceptance are, as a rule, mixed types. I take the liberty of offering the following: First, a catarrhal form, subdivided (*a*) into those due to uncleanliness, foreign bodies, and trauma; (*b*) infectious, but not gonorrhœal. Second, (*a*) a gonorrhœal type, due to gonococcus (Neisser); (*b*) the mixed infection due to gonorrhœa and possibly other diplococci. I shall not utilize as statistical material results of my former examinations of the discharges from the vulvo-vagina, for the reason that I did not employ the Gram stain. In my last set of cases I always confirmed the presence of the gonococcus by Gram's method not only in cover-glass preparation,

but also in culture media. *En passant*, I shall give the history of a few striking and convincing cases.

CASE I.—Aged twenty-two months, presented a purulent vaginal discharge of fifteen days' standing. Was treated locally. Father of the child had gonorrhœa of three weeks' standing, with profuse discharge, and stated that he and the child occupied the same bed. Cover-glass preparation from secretion of father and child showed gonococci decolorized by Gram's method. Chest-serum agar plates employed in the case of father and child revealed gonococci, which I could readily isolate.

CASE II.—Aged two and a half; five days' duration; no treatment. Mother and father both had discharges. Cover-glass of mother and child revealed gonococci, decolorized by Gram's method.

These two cases prove almost conclusively that the gonococcus is the etiological factor.

CASE III. has been of special interest to me on account of the long duration of the discharge. The child was three years old, and presented uro-genital blenorrhœa of ten months' standing. At times there was an acute exacerbation. The cover-glass shows two kinds of diplococci, first the gonococcus which decolorized by Gram's method, and second, diplococci in pus-cells which appear somewhat larger than the gonococci, but were not decolorized by Gram's method. In the latter class of cases the question would naturally arise whether we were not dealing with a mixed infection. The biology and pathogenesis of the gonococcus of the vulvo-vagina is identical with the gonococcus of the male urethra, as my culture and inoculation experiments will show. The fact that vulvo-vaginitis is so little amenable to treatment by ordinary methods is partly proof that we are dealing with the same infection as in male gonorrhœa.

Inoculation Experiments.—The first thought that occurs to our minds is whether absolute reliability can be placed in the results obtained from cultivating the gonococcus on such media as agar, potato, gelatin, nutrient gelatin, and acid-gelatin. In the first place the conditions under which the experiments were conducted by different workers were not always the same, the personal equation always entering as an important factor. Thus various investigators may view the same microscopic field, and yet the interpretations of their conceptions may be as numerous as the investigators themselves. In the case of the gonococcus this rule applies with double weight, since there is a deplorable scarcity of media available for the cultivation of this diplococcus. There are, however, other specific bacteria to which this rule does not apply at all. Thus, through the efforts of bacteriologists we are in a position to-day to differentiate a number of organisms through their characteristic growth on special media. The *bacterum coli commune*, for instance, is an acid-producer, while the typhoid bacillus is not. The crucial test for the establishment of the gonococcus on a true bacteriological basis is inoculation experiments in the human economy, since animals are to a certain extent refractory. And yet how seldom this method has been brought into play in connection with works of others becomes apparent when we look up the literature of this special topic. For we then learn that such careful investigators as Bockhart, Oppenheimer,[46] and Kreis[47] did not make inoculation experiments. Their results are therefore considered questionable by Finger and Wertheim. Sternberg[48] in 1884 thought he was dealing with the gonococcus, and yet when he came to his inoculation experiments found he was not dealing with the gonococcus at all. Recognizing the importance of inoculation experiments, my attention and experiments were principally directed to that field in order to establish the true pathological significance of the gonococcus Neisser.

It becomes my pleasant duty here to acknowledge my sincere appreciation and a sense of deep obligation to Dr. Ira Van Giesen for his painstaking efforts to further my researches by obtaining material for my inoculation experiments. He was kind enough to control my first inoculation experiments and was of service to me in many other ways. Having obtained a supposed pure culture of the gonococcus, I utilized a fifth generation on chest-serum agar. The culture in question was made from pus obtained from the male urethra.

CASE I.—The patient selected, a boy aged four, suffered from idiocy, complicating chronic epilepsy. He was badly nourished. Pulse, 84; respiration, 18; temperature, 37.1° C. Having cleansed his glans penis, a sterilized platinum hook was passed into the urethra to obtain secretion for the cover-glass preparation. The specimen showed epithelial cells containing bacteria, none of which decolorized by Gram's method. To further control the urethra, plate-cultures on nutrient gelatin, nutrient agar, and chest-serum agar were made. The usual forms of urethral bacteria were obtained, none of them, however, decolorized by Gram's method. The urethra was then inoculated with a supposed pure culture of the gonococcus. Nothing was noticed up to the fifth day. In the presence of Drs. J. J. Collie and J. R. Knapp I was able to express from the urethra a drop of pus. Cover-glass preparations were made which showed pus-cells containing typical gonococci decolorized by Gram's method. To complete the experiments plate-cultures were made on chest-serum agar, nutrient agar and gelatin. I was agreeably surprised to obtain on chest-serum agar the same growth which previously was considered to be the gonococcus (Neisser), and was also able to isolate it in pure culture. The subsequent course of the disease was a mild one, the temperature (rectal) never rising above 37.7° C. On the twelfth day a very appreciable quantity of pus could be expressed. Cover-glass preparation showed quite a number of typical gonococci in pus-cells, decolorized by Gram's method. On the nineteenth day the same condition was found. On the twenty-fifth day the quantity of pus was profuse. Temperature, 37.4° C.; pulse, 120; respiration, 30. Cover-glass preparation showed numerous diplococci decolorized by Gram's method. Having thus convinced myself of the specificity of the gonococcus of the male urethra I was tempted to repeat the experiment with the supposed gonococcus obtained from vulvo-vaginitis of children. For this purpose I therefore selected a fourth generation. The case selected was an idiotic boy, aged sixteen, who had been under observation for about four years. No history of ever having had a discharge from the urethra; otherwise healthy. On the day of inoculation the temperature, 38.5° C.; respiration, 28; pulse, 120. The same precautions were observed as in the other case. Cover-glass preparation showed epithelial cells, no bacteria. Plate-cultures were taken on gelatin, agar, and chest-serum agar. The gelatin plate gave negative results, the agar plates developed a coccus not decolorized by Gram's method, and the chest-serum agar plate showed cocci and streptococci in great abundance, but not decolorized by Gram's method. With a sterilized platinum hook a pure culture of the gonococcus of vulvo-vaginitis from chest-serum agar was inoculated; the precaution was taken to have the patient empty his bladder before the inoculation. On the second day pus appeared. On the fourth day the patient presented a swollen penis, with a profuse discharge. Temperature, 38° C.; respiration, 21; pulse, 126. The temperature in this case was reduced 1° C., but the pulse increased from 120 on the day of inoculation to 126. Cover-glass preparation showed typical gonococcus decolorized by Gram's method, and from the urethral discharge I was again able to cultivate and isolate the gonococcus (Neisser).

CASE II.—Adult, aged twenty-six, in the last stage of tuberculosis. Has been under observation for two years; denied any gonorrhœal history. Temperature,

40.2° C.; pulse, 150; respiration, 36. The hyperpyrexia in this case made it of special interest, as Finger claims that inoculation experiments showed only in subjects with nearly normal temperatures. Cover-glass preparation of Case II., as well as gelatin, agar, and chest-serum agar plates, showed numerous bacteria, not decolorized by Gram's method. A pure culture of the gonococcus obtained from vulvo-vaginitis was inoculated into the urethra. On the second day no discharge was present, and patient did not complain of painful micturition. Temperature, respiration, and pulse about the same. On the fourth day a slight discharge was noticed. Temperature, 39.2° C.; respiration, 30; pulse, 150. Patient felt no ill effects. Cover-glass preparation showed characteristic gonococci decolorized by Gram's method. In this case I was able also to cultivate the gonococcus from the urethra and isolate it in pure culture. On the ninth day cover-glass showed the same results as on the other days. Discharge was never profuse at any time. After death of patient, which occurred on the fourteenth day after inoculation, Dr. Van Giesen made a post-mortem examination of the genital tract. He will report the results of the examination.

Inoculation of the Large Diplococcus Found in the Normal Urethra.—In order to prove its non-pathogenic nature I utilized a pure culture of the eighth generation. The young man who was the subject of this experiment was seventeen years of age, and positively denied any gonorrhœal history. His urine before inoculation was clear; gelatin, agar, and chest-serum agar showed no gonococcus. Patient was instructed not to pass any urine for the next five or six hours. Dr. Goldenberg was a witness to this experiment. At the expiration of five days his urine was examined, but with negative results; pathologically nothing could be demonstrated.

I next endeavored to ascertain whether this diplococcus found in the catarrhal variety of colpitis is the cause of the infection. My inoculation experiments soon demonstrated that the diplococcus which I isolated from catarrhal colpitis cases is not responsible for this pathological condition of the catarrhal form of colpitis. For this experiment I selected an adult aged twenty-five, apparently in good health. Examinations of his urethra by means of cover-glass specimens and gelatin, agar, and chest-serum agar plates showed no gonococcus. A pure culture of the third generation of the diplococcus was inoculated with negative results.

Inoculation Experiments with the Diplococcus Urethræ (Turro).—Believing that Turro's supposed gonococcus had its virulence increased on an acid medium, I inoculated this diplococcus (Turro), fourth generation, from an acid-gelatin medium into a healthy male urethra, as was proven by cover-glass preparations and gelatin, agar, and chest-serum agar plates, showing no gonococci. The result of this experiment was negative.

Animal Experiments.—Various species of animals were inoculated with the true gonococcus (Neisser) with different results. Neisser, as early as 1882, had inoculated dogs with negative results. Loeffler and Leistikow [49] inoculated the abraded conjunctiva and urethra of rabbits and guinea-pigs with negative results. F. Krause [50] inoculated rabbits, cats, pigeons, and mice. Wertheim, on the contrary, claims to have produced a slight peritonitis on mice, guinea-pigs, rabbits, and rats. Finger, in his experiments on dogs, claims he produced an acute inflammation of the knee-joint of the dog by injecting a pure culture from serum agar. He, however, obtained no reaction in the urethra or rectum of the dog by injecting the gonococcus. His experiments on the peritoneum of white mice were reported as negative. The varying results of different experimenters led me to study the effect of the true gonococcus on white mice. Two healthy mice were selected. The abdominal surface was disinfected with five per cent. carbolic solution. A pure culture of the gonococcus was previously placed in 1 c.c. of sterilized distilled water. The apparatus for injection used was the one described by Petri. A half cubic centimetre of the pure culture of the gonococcus was then injected into the peritoneal cavity. Twenty-four hours after inoculation no ill effects observed; mice eat well and appear healthy. After forty-eight hours a dissection of one of the mice was made under control of Dr. Cheesman. Macroscopically no pathological changes could be demonstrated. Cover-glass preparations and chest-serum agar plates were made; the plates gave negative results; cover-glass specimens, however, showed a number of pus-cells with small masses of cocci which decolorized by Gram's method. To account for this we may assume that the cocci found were still the remains of the inoculation. On the other hand, again, the presence of the pus-cells may have been the starting-point of a beginning peritonitis. I concluded to keep the other mouse alive for several days for further investigation. On the seventh day the second mouse was dissected, and the macroscopic appearance was the same as in the first mouse. Cover-glass preparation showed no pus-cells, and sowing on peritoneum and chest-serum agar plates gave negative results.

Experiments on Dog with the Gonococcus (Neisser).—I have inoculated both eyes and the urethra of the dog with absolutely negative results. In all my experiments I was careful to transplant my cultures for the purpose of ascertaining their viability. This, then, is a summary of my experiments and studies with micro-organisms of the normal and pathological male urethra and vulvo-vaginal tract of children. While my results have tallied in many respects with those of other writers, I have frequently found it necessary to antagonize, as you are now aware, their views and conclusions. To summarize briefly, I will submit the following conclusions:

1. I believe that the gonococcus (Neisser) is never present in the normal urethra, as far as my experiments have shown.

2. The diplococci found in the normal urethra can positively be differentiated by the Gram stain.

3. I believe that the diplococcus described by Turro in connection with his acid media experiments is not the gonococcus.

4. I indorse Wertheim's conclusions, except that I believe the liquid sterilized chest-serum is a better culture medium in every way than placenta serum.

5. I believe that urine-agar is not an ideal culture medium, as Finger claims.

6. Gram's stain is the only crucial staining test for the presence of the gonococcus (Neisser), and should therefore be employed in all cases.

7. For ordinary staining of the gonococcus I would recommend a two per cent. alcoholic methyl-violet solution.

8. Certain reports of the discovery of the gonococcus in various parts of the body, such as mouth, rectum, and serous cavities, must be looked upon with scepticism, owing to the fact that Gram's stain and culture media were not applied.

9. The normal vulvo-vaginal tract is never a habitat for the gonococcus, as far as my experiments have demonstrated.

10. Gram's stain is here also the differential stain between the diplococci found in pus-cells from the diseased vulvo-vaginal tract.

11. There is reason to believe that there is a specific micro-organism in catarrhal colpitis, either the diplococcus of Bockhart or of E. Fränkel.

12. In specific colpitis the gonococcus found is identical with the one found in specific male urethritis.

13. My inoculation experiments on the human urethra confirm the belief in the specific pathogenic power of the gonococcus (Neisser).

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LEUCOMAIN POISONING.

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DURING the past eighteen months I have been trying to make an experimental investigation on the influence of paraxanthin and other uric-acid leucomains in the production of certain well-known but little understood nervous disorders. In the meantime I have published two papers[1] on this subject, one entitled "Paraxanthin as a Factor in the Etiology of Certain Obscure Nervous Conditions," the other, "Uric-acid Leucomains as Factors in the Etiology of Migraine and Kindred Nervous Diseases." Since the publication of these papers I have continued the study of this subject, and now believe that I am justified in asserting that leucomain poisoning is a very important phase of auto-intoxication, and that it may manifest itself in at least three distinct but closely allied clinical forms, viz.: 1. As a true migraine or leucomain headache. 2. As a migrainous epilepsy or leucomain epilepsy. 3. As a migrainous gastric neurosis or leucomain gastric neurosis.

This group of nervous disorders is among the most common, the most painful, and the most intractable to treatment of all diseases. And we know even less concerning their etiology than we do concerning their treatment. The assertion, therefore, that leucomain poisoning is an important factor in the production of these disorders is most important if true, and the evidence upon which this assertion is based is also most important if true.

In the beginning let me say a word about leucomains.[2] The uric-acid leucomains are a group of bodies closely related to uric acid, of which paraxanthin, xanthin, and gerontin are poisonous, and xantho-creatinin is a poisonous leucomain of the creatinin group. It is quite possible that all of these poisonous leucomains, as well as other unnamed poisonous leucomains, may contribute to the production of the complex of symptoms which I have here classed under leucomain poisoning; but in this study I have only attempted to show that

[1] The Medical News, Philadelphia, May and October, 1894.
[2] I am indebted to the little book of Vaughan and Novy on "Ptomains and Leucomains" for many of the facts and references used in this paper.

paraxanthin and xanthin are etiologically related to the group of nervous disorders above noted as being manifestations of leucomain poisoning. Paraxanthin is by far the most poisonous of all leucomains. Salomon thus describes paraxanthin poisoning in the mouse. If one-half milligramme of paraxanthin be introduced into the peritoneal cavity of a mouse the following symptoms will result: "The reflexes are increased to a tetanus, followed by a rigor-mortis-like contraction of the muscles; marked dyspnœa is a constant symptom, which continues till death."

Xanthin is very much less poisonous than paraxanthin, but according to Filehne it produces in the frog a decided muscular rigor and paralysis of the spinal cord. In brief, we may note the following facts concerning xanthin and paraxanthin as bearing on this research:

1. Paraxanthin and xanthin are poisonous leucomains of the uric-acid group, capable of producing the most profound nervous symptoms. They are readily soluble in water, urine, and blood.

2. Paraxanthin is found in normal urine in such small quantities that its poisonous properties are lost in dilution. Salomon found only 1.2 gm. in 1,200 litres of urine. This quantity is so minute that its presence cannot be satisfactorily demonstrated in such quantities of normal urine as can conveniently be obtained from patients. In a recent personal communication Salomon says: "Nine litres of normal urine is a very small quantity to prove the presence of paraxanthin, if one has not previously worked with larger quantities so as to master the details of the work, and very much harder would it be to prove the presence of paraxanthin in four litres of normal urine, as I know from experience. . . . I would advise that not less than ten litres of normal urine be used to demonstrate the presence of paraxanthin." My own experience is in accord with Salomon's. In previous papers I have recorded my failure to demonstrate the presence of paraxanthin when working with as little as four litres of normal urine; and since these papers were written I have made a large number of examinations of normal and other urines, and I have always failed to demonstrate the presence of paraxanthin in four litres of normal urine. Upon this evidence I have concluded that paraxanthin is present in abnormally large quantities when I can find it in less than four litres of urine. Xanthin also, as a rule, requires more than four litres of urine to demonstrate its presence, but I have frequently found small quantities of xanthin where I could not find paraxanthin in working with four litres of urine.

3. Paraxanthin and xanthin are not formed in the kidney. They are excreted from the blood by the kidneys. The presence, therefore, of large or small quantities of xanthin bodies in the urine means that these bodies were present in large or small quantities in solution in the blood previous to their elimination by the kidneys.

With the above facts in mind concerning xanthin and paraxanthin, we are better prepared to study the evidence here presented to prove the existence of a leucomain poisoning.[1]

Migraine, which has heretofore been ascribed to uric acid and many other causes, is perhaps the most common manifestation of leucomain poisoning. The form of migraine which I believe to be a leucomain headache can best be described by the report of a case.

Mrs. M——, aged thirty-five. A number of her sisters have migraine, and she has been a sufferer from the same disease since she was a child. The attacks come on every two or three weeks, sometimes oftener, and at times she has immunity from them for five or six weeks. The more severe the attacks, the longer she will be free from them. A very severe attack lasting three or four days will be followed by several weeks of immunity. Again mild attacks may occur every week with great regularity, and then be followed by a severe attack and a long period of immunity. An attack almost always occurs just before or during her menstrual period. She is perfectly well quite up to the time she is taken with an attack. She has no warning, except a sensation of burning in one cheek; this is accompanied by a vasomotor dilatation of the blood-vessels of the cheek and at times of the ear. This is followed by a typical attack of migraine, with severe headache, nausea, vomiting, and prostration. The day following the attack the patient is almost well again. The urine during an attack is scant in quantity, has a dark-red color, and contains no albumin. It always contains an excess of uric acid and a diminished quantity of urea. Urea is frequently reduced to 8 to 10 gm. and the uric acid increased to 0.45 to 0.55 gm. in 1,000 c.c. of urine. The proportion of uric acid to urea upon which Haig lays so much stress is thereby greatly increased. The urine also contains paraxanthin and xanthin in greatly increased quantities. In three litres of urine passed by this patient during and after a severe attack of migraine, I found paraxanthin. I have four or five times examined the urine of this patient passed during and after an attack, and have always found paraxanthin. In the last examination I used less than two litres of urine and obtained sufficient paraxanthin to demonstrate its presence by chemical tests, by the needle-like crystals obtained by evaporating a drop of the "final fluid," and by its physiological action on a number of mice. I have always failed to find paraxanthin in the urine of this patient passed between these attacks.

From a careful study of the urine of this and other cases of typical migraine, one of which I have previously reported, I am convinced that paraxanthin and xanthin are excreted by the kidneys in great excess during the attacks in these cases, and that they are not found in excess in the urine in the intervals between the attacks. For these reasons I believe that there are a class of cases now called migraine in which leucomain poisoning is an important etiological factor, and that these attacks may therefore not improperly be called leucomain headaches.

Migrainous epilepsy is, as I believe, another manifestation of leucomain poisoning. Clinically, this is a well-known form of disease that comes on, as a rule, during middle life, as a sequel to migrainous headaches of former years. These attacks differ somewhat in character from those of true epilepsy, and they are not, as a rule, followed by mental impairment,[1] as in true epilepsy. The history of a case will best describe this interesting form of disease.

Mrs. X——,[2] aged sixty-three, is married, and the mother of six grown children. Family history is negative, except that "one sister had some nervous heart trouble." The patient was always a hard-working woman till a few years ago, when her grown daughters took charge of all the household affairs and left her without occupation. She has always been rather stout, but of late years her hearty eating and inactive life have made her much stouter than before; she now weighs more than two hundred pounds, and spends most of the day in her easy-chair; she has quite as capacious an appetite as she has ever had, and is now, as she has always been, especially fond of meat. From her earliest remembrance to September, 1892, she suffered with periodic attacks of "sick-headache," and since this date she has not had a single characteristic sick-headache; instead of sick-headache she has had epileptoid attacks, which have continued to the present

[1] As an addendum to this paper I have given the method for separating and proving the presence of xanthin and paraxanthin.

[1] This may explain the fact that Mohammed, Julius Cæsar, and possibly Napoleon Bonaparte suffered from epilepsy without mental impairment.

[2] This is the same case as was reported in the Medical News, Philadelphia, May 26, 1895; the further history of the case is here reported.

time at about the same interval as her previous attacks of migraine.

In September, 1892, she fell in her first spell, and was carried into the house in an unconscious condition; after about thirty minutes she regained consciousness, but did not know anything about what had happened. For twelve hours after the attack she had a severe headache, which passed away, leaving her as well as usual. She continued to have attacks similar to this one at intervals of about three or four weeks. In all of these spells she became unconscious, and remained so for from twenty to forty minutes, when she would regain consciousness to find herself suffering from a severe headache, which would pass off in from twelve to twenty-four hours, leaving her quite well again. These attacks came on without apparent exciting cause, and with absolutely no warning; she feels as well, if not better than usual, just before the attack. A number of these attacks have come on in the early morning during sleep; at times the patient is seized with an attack while on her feet, and falls heavily to the floor. On one occasion she bruised her face and shoulder by a fall of this kind. The after-headache became less and less severe as time passed, until at the present time "there is almost no headache following a spell." After five or six months these epileptoid attacks were less frequent, so that five or six weeks would at times intervene between the attacks, but such a long interval was usually followed by an unusually severe attack, and not infrequently by two attacks within a few hours. In the interval between the spells the patient was quite well, except that she was somewhat mentally depressed with the certain knowledge that at the end of five or six weeks she was sure to have "another spell."

On September 18, 1893, three days after a very severe spell, she came to my office for the first time. At this visit I obtained her previous history, and prescribed phosphate of soda in teaspoonful doses after each meal. The next day I examined her urine, and found no albumin, sugar, or casts.

On January 14, 1894, the attacks had continued at intervals of from three to six weeks, but I had not been fortunate enough till this day to witness one of these attacks. On this day she had two attacks, the first one mild, the second one severe. I saw her in the second. The first attack was at 8 A.M., and occurred, as usual, without warning. It lasted from twenty to thirty minutes, and she had just regained consciousness when I reached the house. At this time she was restless, somewhat confused in mind, and complained of pain in the left shoulder; the respiration was normal, and the pulse 90, strong and regular. By this time I knew enough of the case to suspect that this mild attack would be followed by another and more severe one during the day. I therefore arranged matters so that I could reach the patient within a few minutes should she have another attack that day. At 7 P.M. the second attack occurred, and I had the good fortune to be present. This attack came on while the patient was in bed, where she had remained all day as a precautionary measure against a second attack. In the beginning of the attack the attention of the family was attracted by her peculiar, noisy breathing. She became unconscious at once, her breathing labored, her lips blue, and face congested; the arms and legs were straightened and stiffened, and remained rigid for eight or ten minutes, and then became relaxed, and remained so during the remainder of the attack; the congestion of the face soon passed off, and the lips became red again, but the heavy, noisy, irregular breathing continued for twenty or twenty-five minutes, and did not become quiet and regular until just before the patient regained consciousness. The pulse in the beginning of the attack was strong, regular, and about 85 or 90 per minute; it gradually increased in frequency till at the close of the attack, which lasted forty minutes, it was 120 per minute; all the time, however, it was strong and regular. After the attack the pulse gradually returned to the normal. The pupils were the same on both sides; they reacted to light, and were contracted till near the close of the attack, when they became normal. There were no muscular twitchings except in the right upper eyelid, and here they occurred for a short time only during the most severe part of the paroxysm. After the heavy breathing subsided the woman lay for about ten minutes apparently in a normal sleep; she then began to move, opened her eyes, was much confused, and could not understand what had happened to her. She was now very restless, complained of pain in her left shoulder, and wished to be moved frequently; she also complained of being sick at the stomach (this has been a common symptom in her recent attacks, but she has never vomited in any of them). About one hour later she went to sleep, and slept the greater portion of the night; the next day she did not feel sick, but remained in bed, and on the second day she was up and about as usual.

This attack was "just like all of her previous spells," and I have described it in detail to impress the following points, which were characteristic of all her attacks: 1, sudden onset of attack, as a rule without warning; 2, muscles rigid, but not convulsed; 3, labored, gasping, irregular breathing; 4, unconsciousness from beginning to end of the attack; 5, heart's action rapid, but regular and strong.

The urine of this patient was collected, and the quantity of uric acid and urea was carefully estimated each day, over a period of nearly three months.[1] These examinations clearly show that during these epileptoid attacks the excretion of urea is very much decreased and the excretion of uric acid is vastly increased, the proportion of uric acid to urea in the urine excreted during an attack is, therefore, very greatly increased. In other words, this case corresponds in every particular to that class of epileptoid cases which Alexander Haig describes as being due to that little understood condition, "the uric-acid diathesis."

I had collected four litres of urine passed just before, during, and following a severe attack; this urine was given to Mr. Otto Bange, a professional chemist, with the request that he would abstract from it the paraxanthin it contained. Mr. Bange found paraxanthin, the "final liquid," being evaporated down to about ½ c.c.; this paraxanthin solution was diluted with distilled water to 4 c.c., and this dilute paraxanthin solution was used for experimentation. From a drop of this solution on a glass slide characteristic needle-shaped paraxanthin crystals crystallized out. One drop of this solution in potassium hydrate solution gave the white precipitate which is characteristic of paraxanthin. The physiologic effect of this solution on mice was similar to the symptoms of paraxanthin poisoning in the mouse as described by Salomon. One minim of this paraxanthin solution was injected into the peritoneal cavity of a full-grown gray mouse at 5.45 P.M.; at 5.48 P.M. the mouse was very nervous, jumped spasmodically when the sides of the tin can were touched; this reflex excitability continued until it was almost a tetanus. At 5.50 P.M. the mouse fell in a convulsive movement, and almost immediately stiffened in a clonic tetanic contraction of all the muscles. This muscular tension was kept up almost uninterruptedly for three hours, when the mouse died. Toward the close of this period the muscles were relaxed, and except at the onset there was no convulsive movement. From the beginning to the end of the attack there was dyspnœa and a gasping respiration, which after a time was irregular.

In a number of experiments on mice and rats, of which the above is a type, it was proved that the substance extracted from the urine was certainly paraxanthin, and that it always produced a group of symptoms very similar to those from which my patient suffered

[1] See full report in Medical News, Philadelphia, May 26, 1894.

when she was excreting this paraxanthin, and Salomon writes me that these observations correspond exactly with his paraxanthin poisoning of mice.

The above observations were made previous to May, 1894, and since that time I have had this case continually under observation. The urine has been repeatedly examined both by Mr. Bange and myself, and we have always failed to find paraxanthin in three or four litres of the urine of this patient passed in the interval between the paroxysms, and have never failed to find paraxanthin in three litres of the urine passed during and just after these epileptoid attacks.

Very recently I examined three litres of urine from this patient passed during and after one of these attacks. In this examination the liquid became turbid in the final evaporation, when the fluid had been reduced to 5 c.c. The liquid was then allowed to cool and the xanthin that separated out was removed; the liquid was again evaporated and cooled to separate the xanthin, and it was then finally evaporated to ½ c.c. This "final fluid" proved to be a very concentrated solution of paraxanthin. It was diluted with distilled water to 5 c.c. of fluid, and this diluted solution of paraxanthin was used for experimentation. From the evaporation of one drop of this fluid on a glass slide there resulted a very heavy deposit of needle-shaped paraxanthin crystals, and three minims of the fluid produced characteristic paraxanthin poisoning in the rat. In the evaporation of this paraxanthin solution there crystallized out a very large amount of xanthin crystals, more than could be redissolved in 8 c.c. of distilled water at room temperature. Ten days after the attack, during which this urine was excreted, I obtained another specimen of three litres of urine, passed in the interval between the attacks, when the patient was at her best, and in this urine I failed to find even a trace of paraxanthin, and found only a small quantity of xanthin. The urine of this patient has been so frequently examined that I am safe in the assertion that during these attacks it contains paraxanthin and xanthin in enormously increased quantities.

In the study of this case of migrainous epilepsy the following summary of facts may be made:

1. Uric acid and its compounds are not poisonous.

2. Paraxanthin and xanthin are poisonous leucomains of the uric-acid group, which, when injected into mice, produce the following symptoms: *a*. Nervousness, extreme reflex excitability, almost a tetanus, and at times convulsive movements. *b*. Clonic tetanic stiffening of all the muscles, followed by muscular relaxation. *c*. Dyspnœa, orthopnœa, asphyxia. The gasping and difficult respiration is perhaps the most characteristic symptom. *d*. Stimulates the heart. Its movements are rapid and strong.

3. This patient during the interval between the attacks did not excrete sufficient paraxanthin to be detected in three litres of urine.

4. This patient during an attack excreted a quantity of paraxanthin and xanthin enormously in excess of the normal quantity. The paraxanthin thus excreted and obtained from three litres of urine produced in the mouse and rat the characteristic symptoms of paraxanthin poisoning above narrated.

5. The attacks during and after which this patient excreted such large quantities of paraxanthin were very similar in symptomatology to paraxanthin poisoning in the mouse.

6. The paraxanthin excreted in such large quantities just following these attacks must have been in solution in the blood during the paroxysm.

In the light of these facts it seems to me impossible to resist the conclusion that the attacks from which this patient suffers are due to the presence in the blood of an excess of paraxanthin and possibly other poisonous leucomains. If this be true, there is a form of epilepsy, closely allied to migraine, which should be called leucomain epilepsy. I wish here to refer to a point which I noted in a previous paper.[1] In my experiments upon mice I found that permanganate of potash was a fairly good antidote for paraxanthin poisoning, and the paraxanthin solution used in these experiments was obtained from the urine of the above leucomain epilepsy case. For this reason I decided to give my patient one grain of permanganate of potash three times a day in the hope of preventing these attacks. Under this treatment the patient had immunity from these attacks for ninety-four days; then followed a severe attack on February 11, 1895—the permanganate was continued—two weeks later she had another attack, not so severe, and from that time to the present writing (May 17, 1895), she has not had an attack. During the two years that this patient has been under observation she has been given a great variety of treatment[2] both medicinal and dietetic, but under no other treatment has she been free from these attacks for a greater period of time than six weeks. Whether the benefit that has followed the permanganate treatment in this case is a coincidence or an effect can only be discovered by subsequent observations.

Migrainous gastric neurosis is a very common disorder, occurring in both childhood and adult life. The clinical picture which it produces is well known to all clinicians; but at the present time we have as little satisfactory knowledge concerning its etiology as we have concerning its treatment. This condition, which I believe to be a leucomain gastric neurosis, is one of the most distressing of ailments, and may best be described by the report of a case.

Mrs. P——, aged thirty-four, married, and mother of three children. Her mother and a number of her family have suffered from "sick-headache." She had sick-headache when a child; these headaches continued up to about five months ago. At this time she would have headache with great regularity every week or every two weeks, and then again she would go for six weeks without having a "bad headache." These headaches would always make her very sick for one or two days, and they were always accompanied by nausea and vomiting. As a rule, the headache commenced to get better after the vomiting. These typical attacks of "sick-headache" continued up to five months ago, when they were superseded by severe attacks of gastric neurosis. The gastric attacks now come on about every two or three weeks, and are so free from headache that the patient did not in any way associate these attacks with her former sick-headache attacks, which stopped so suddenly when these attacks came on.

The clinical history of this case leaves no room for doubt but that these gastric attacks are a modification of the former sick-headache attacks.

Description of Gastric Attacks.—The day before the violent attack the patient is at times uncomfortable, with slight pain in stomach and eructation of gas; the urine is very scant and high-colored; and at times there is a red spot on left cheek, accompanied by a sensation of burning. There is much more of a warning to these than to the sick-headache attacks which preceded them. These warning symptoms may be more or less distinct, and then the attack bursts with great fury. At once the patient has very great pain in the stomach, and the vomiting comes on at the same time. These attacks are so sudden that the patient undresses and gets to bed with difficulty. The pain and vomiting continue, and a large quantity of glairy mucus is discharged from the stomach. Eructation of gas, pain in the stomach, and vomiting of mucus continue in paroxysms till they are relieved by the hypodermic injection of morphine. I have seen this patient in perhaps half a dozen of these attacks, and they do not seem to be self-limited like the sick-headache attacks, and they are only temporarily relieved by the vomiting. One of these attacks I trusted to its self-limitation; it continued for thirty-six hours

[1] Medical News, Philadelphia, November 3, 1894. [2] Ibid.

with increasing severity, and was then relieved at 3 A.M. by hypodermic injections of morphine. In this attack the patient was so exhausted that it took her eight or ten days to recover. She had much abdominal tenderness for several days and had fever of 103° F. the next day after the attack. I am thoroughly convinced that this attack would have ended fatally if it had not been relieved by morphine. In all of her subsequent attacks I have given the morphine as soon as I reached the patient. When the morphine is given soon after the beginning of the attack, the patient's suffering is very much modified. The next morning after an attack a saline cathartic is given, and after it has acted the patient is fairly convalescent, and by the second day after the attack she is almost as well as usual. When the morphine is given early in the attack there is no fever and little abdominal tenderness following the attack. These attacks are surely nervous, and do not have their origin in any morbid process going on in the stomach or intestinal canal.

The urine excreted during these attacks is diminished in quantity. It contains no albumin and no sugar. It has an increase of uric acid and a diminished quantity of urea; but of far more importance is the fact that the quantities of paraxanthin and xanthin are enormously increased in the urine. From two litres of urine, passed during and just after one of these severe gastric attacks, I separated both paraxanthin and xanthin. The presence of the paraxanthin was proven by chemical, microscopic, and physiological investigation. The "final fluid" was in this observation evaporated to 3 c.c., and this proved to be strong in paraxanthin and xanthin. Two minims of this fluid thrown into the muscles of the back of the mouse produced death in from fifteen to thirty minutes, with the following symptoms: The mouse at first became very nervous, reflex excitability was much more marked. It jumped spasmodically whenever the wire cage was jarred with the finger. After about ten minutes the mouse held on to the wires of his cage, very much as if he were asleep; he would loose his hold on one wire and catch the next lower down; in this way he would helplessly slide down the side of the cage. This stupor deepened gradually, and was interrupted at times by sudden reflex spasmodic muscular contractions, which were brought out by tapping the cage. At the end of fifteen minutes the mouse fell in a convulsive movement, which was quickly followed by a stiffening of all the muscles. In this condition the mouse lay till he died, some fifteen minutes later, or about thirty minutes after the poison was given. The breathing, during all this time, was very rapid, and then became labored and irregular.

Four litres of urine passed by this patient in the interval between attacks did not show a trace of paraxanthin, and the "final fluid" evaporated to 2 c.c. was not poisonous to mice. In the mucus, etc., vomited by this patient during attacks, I have twice demonstrated the presence of xanthin, but I have not been able to find paraxanthin.

We may summarize the following interesting facts concerning this case: 1. Family history of migraine. 2. Previous personal history of sick-headache. 3. Patient now suffers from attacks of a severe gastric neurosis, which have recurred at intervals of two or three weeks, ever since the attacks of sick-headache ceased, five months ago. 4. In four litres of urine passed by this patient in the interval between these attacks no paraxanthin was found, and the "final fluid" was not poisonous to mice. 5. In two litres of urine passed by this patient during an attack both paraxanthin and xanthin were found in comparatively large quantities, and the "final fluid" was very poisonous to mice. 6. From about one pint of stomach contents vomited by this patient during an attack xanthin was separated, but no paraxanthin was found.

When we study this case in the light of these facts and in connection with the two cases previously described, it seems impossible to resist the conclusion that leucomain poisoning is a very important factor in producing these gastric attacks.

In this paper I have attempted to show that there is a very important form of auto-intoxication which may be designated leucomain poisoning; and I have further attempted to show that we can at present recognize at least three clinical types of leucomain poisoning, viz.: *a*, Leucomain headache; *b*, leucomain epilepsy; *c*, leucomain gastric neurosis.

Addendum.—In the examination of the urine I now assume, for reasons given in this paper, the following propositions: 1. Four litres of normal urine is too small a quantity to determine the presence of paraxanthin. 2. Three litres of pathological urine are quite enough to determine whether paraxanthin occurs in sufficient excess in this urine to make it a probable factor in disease.

In every case at least two specimens of urine should be examined. One of three litres of urine passed during and just after the attack, supposed to be due to leucomain poisoning; and the other of four litres of urine passed, in an interval between the attacks, when the patient is at his best.

Method (from E. Salkowski and Salomon).—The phosphates are precipitated with ammonium hydrate; after twenty-four hours the urine is filtered or decanted from the precipitate, and a three per cent. solution of nitrate of silver is added to it; the silver solution should be added as long as precipitation occurs. The urine is removed from the precipitate of silver compounds, and this precipitate is washed five or six times with distilled water, the water being removed each time from the precipitate by decantation. This process may require a week. The silver compounds suspended in water are now decomposed with hydrogen sulphide, the current of H_2S is made to pass through the water, in which the silver compounds are suspended, for hours; the liquid is now filtered, to separate it from the precipitate, and evaporated down to about 50 c.c. if 3,000 c.c. of urine have been used; the remaining uric acid is thereby separated; this liquid being filtered, ammonia is again added; after twenty-four hours it is again filtered and precipitated with silver nitrate, the silver being added as long as precipitation occurs; the silver compounds are again separated from the liquid by filtration; they are allowed to remain on the filter-paper and kept in a dark place for twenty-four or thirty-six hours; the filter-paper holding the dry precipitate of silver compound is put in hot nitric acid of 1.1 specific gravity; the acid dissolves the nitrates of xanthin and paraxanthin in the precipitate, and thus separates them from the nitrate of hypoxanthin, which is insoluble in nitric acid; if working with three litres of urine, from 6 to 7 c.c. of acid should be sufficient to dissolve the xanthin and paraxanthin. After two hours the nitric acid is again heated and filtered while hot, so as to insure the solution of the xanthin and paraxanthin; the nitric acid solution is now carefully neutralized with ammonium hydrate, and for the third time xanthin and paraxanthin are precipitated; the precipitate is washed, suspended in water, and again decomposed with hydrogen sulphide; this fluid is filtered while hot, and the filtrate is evaporated to 10 c.c.; a little ammonium hydrate is now added, and after twenty-four hours the last traces of phosphates and oxalates will be precipitated; the liquid is again evaporated on a sand-bath, and when the liquid begins to get turbid evaporation is suspended, and as the liquid cools the xanthin, if present, will separate out; filter and again evaporate to 2 c.c. Again the liquid is allowed to cool, so that the xanthin may crystallize out, and the 2 c.c. of "final fluid" is added to 3 or 4 c.c. of distilled water, and this dilute "final fluid" is tested for paraxanthin. If this fluid contain paraxanthin—*a*, the needle-shaped crystals can be

obtained by evaporating a drop on a glass slide; *b*, the characteristic white precipitate should result when a drop of this fluid is added to a solution of potassium hydrate; *c*, a few drops of this fluid when injected hypodermically into a mouse or rat should produce the symptoms of paraxanthin poisoning.

That the crystalline mass that separated out in the final evaporations was xanthin may be proven as follows: Dissolve the supposed xanthin crystals and add picric acid, and if xanthin be present a precipitate of long white glistening crystals of picrate of xanthin will form; or a better test is to mix two or three drops of suspected xanthin solution with two or three drops of nitric acid, chemically pure, in a porcelain dish, and evaporate over flame to dryness, and a yellow precipitate results; to this yellow precipitate add ammonium hydrate and heat; if the precipitate takes on a purple color xanthin is present.

The quantity of xanthin present can be determined by carefully weighing the crystals that separate out in evaporating down to the "final fluid." But for clinical purposes this is scarcely necessary, as one can judge by the mass of crystals formed whether there be a great excess of xanthin or not. If there only be a thin layer of xanthin crystals at bottom of the final fluid, then the xanthin is not very greatly increased, but if the xanthin crystals separate out in much larger quantities, adhering to the sides of the glass vessel and forming a mass that cannot be redissolved in 6 or 8 c.c. of distilled water at room temperature, then it may be safely asserted that the xanthin is very greatly increased in quantity.

The stomach contents should be diluted with distilled water and boiled, and then filtered through filter-paper with the aid of a vacuum filter; the mass remaining on the filter should be again mixed with distilled water, boiled, and again filtered; this fluid is then treated in the same way as the urine.

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MONSTERS.

By E. T. MILLIGAN, M.D.,

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On January 15, 1895, I was called, at 11.30 P.M., to attend Mrs. A——, who was in labor. On examination, the os was well dilated and the bag of waters presenting. I ruptured the bag of waters, and found the vertex presenting, the right occiput anterior, and could easily locate the anterior and posterior fontanelles. As the presentation was normal, the vagina short, well dilated and lubricated, and the labor pains strong and vigorous, I predicted a short labor. After waiting some time, I made another examination and found that, although the pains were strong and expulsive in character, the head was still in the same position. After waiting another hour, I found the head had descended a little, but there was no attempt whatever at flexion. One hour later I made another examination, and found the head had made another advance, but still flexion was absent. After another wait of an hour, I found the head had advanced on the perineum, but the descent was still unaccompanied with flexion. I passed my finger under the pubic arch, to ascertain, if possible, why flexion did not accompany descent, and discovered another child in the uterus, under the pubic arch, face presenting. As I never knew of two well-developed children presenting at the same time, and as a woman in labor does not care to be asked if twins or monstrosities are a peculiarity of her family, I had no example to guide me. When the next pain came on I placed the index-finger of my left hand on the brow of the baby under

the pubic arch; I pressed two fingers of my right hand well up in the rectum, and under the occiput of the baby first presenting, and during a pain, exerted pressure on the brow of the baby under the pubic arch, and with my finger on the rectum, flexed the head of the baby on the perineum. After flexion had taken place the head glided over the perineum and emerged from the vulva. After extraction of the head the shoulders did not follow. I passed my finger into the vagina and delivered the shoulders. After the shoulders were delivered, the remainder of the body refused to come. I passed my finger into the vagina, and found that another baby was attached to the one, "half out of the woods." I flexed the head and shoulders of the first baby against the pubic arch of the mother, and with my fingers again in the rectum, forced the second head along the perineum and through the vulva, the two bodies quickly following. As the monstrosity was dead I tied the cord at once. The abdomen of the mother did not diminish much in size, and fearing a fatal hemorrhage, I laid my two hands over the uterus and exerted gentle pressure. The uterus again contracted and expelled another child enclosed in an unruptured bag of amniotic fluid. I ruptured the bag, and tied the cord after it had ceased to pulsate. The last baby was alive and to-day is strong and vigorous. I seized the uterus at the fundus and expelled the placenta by the Credé method. I did not let go the uterus until I was positive it had well contracted and felt like a wooden ball. The monstrosities were well developed and joined together at the median line, at a point commencing at the junction of the manubrium with the gladiolus, terminating at the umbilicus, and laterally a line running from the axillary border of the scapula, extending to the tenth rib. There was but one placenta, which was quite large, and two cords, one of which supplied the monstrosities (as the accompanying photo shows), the

other cord supplied the last child. The monstrosities weighed 15½ pounds, and the last child weighed 7⅛ pounds, a combined weight of 22⅝ pounds. All the children were females. The mother was six hours in labor. There was no laceration whatever to the perineum. The parents were born in the United States, and deny any histories of monstrosities on either side. The mother has been pregnant on three different occasions, but gave birth to still-born babies between the sixth and seventh months. When she again became pregnant she came under my care with the hope that she would produce healthy offspring. I looked after her carefully, and as she was refined and educated, I had no trouble in having her obey my instructions. I gave her mercury in abundance, alternating with the iodide of potassium, combined with general tonics, properly cooked, plain food, and regulated exercise. At the sixth month of pregnancy I found traces of albumin in the urine, which disappeared on the administration of Epsom salts. At the seventh month she had to take to her bed, suffering from labor pains. I gave her a prescription containing fluid extract viburnum prunifolium, one ounce and a half; bromide of soda, two drachms; sulphate of morphine, one grain; water and sirup to make three ounces; one teaspoonful every two hours. On the next morning her pains had disappeared. I had her remain in bed one week, and continued the medicine, one teaspoonful thrice daily. The large size of the abdomen, at the seventh month, led her husband to believe she had arrived at full time. "My God! doctor," said he, "if my wife goes much longer she will be all belly." She had no further pain until her full time had elapsed, when she endeavored to supply her husband with as many live children as she had had dead ones.

66 La Brosse Street.

SEPTIC BULLETS AND SEPTIC POWDERS.[1]

By LOUIS A. LAGARDE,

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Volume 56, No. 17, of the *New York Medical Journal*, October 22, 1892, contains a special report to the Surgeon-general, United States Army, entitled, "Can a Septic Bullet Infect a Gunshot Wound?" The evidence adduced in this report proves beyond doubt that projectiles, from hand weapons at least, are not purified by the act of firing, and that, when a specific virulent micro-organism like the bacillus anthracis is placed upon a projectile, and the latter is fired into a susceptible animal in such a manner as to wound him only, the animal will succumb to the corresponding infection, in the majority of cases. The experiments on animals, detailed in the special report to the Surgeon-General, were conducted at short range, never more than ten feet.

The question has often been asked whether it might be possible for bacteria to remain on a projectile during and after its transit at the actual ranges of, say three, five, six hundred yards or more. Without such experimental data the work detailed in the report quoted hitherto remains incomplete, and for this reason the following experiments were conducted at Fort Logan, Col., May 10, 1895:

Five sheep were shot at three and five hundred yards with the two hundred and thirty-grain steel-jacketed bullet of the thirty-calibre Krag-Jorgensen rifle. The projectile was propelled by thirty-seven grains of "Peyton" smokeless powder. Each projectile was infected a few moments before the firing took place with a recent virulent culture of the bacillus anthracis on an agar-agar slant. Four of the animals were wounded. One was killed outright; the bullet from the five hundred-yard stand passed through the large vessels of the neck and caused death by hemorrhage in a few minutes.

Of the wounded animals No. 1 received a wound, at five hundred yards, on the inside of the right ham near the shank. The projectile passed out, fracturing the ham bone. Death ensued sixty hours after the injury. Cover-slip preparations from the blood of the liver, spleen, and heart, stained with a watery solution of gentian violet, revealed the bacillus anthracis. Colonies of the bacillus anthracis were isolated on agar-agar plates inoculated from a bouillon suspension of the blood from each of the organs mentioned.

No. 4 was hit at three hundred yards in the left shoulder, the projectile making its exit on the right side of the neck. He never recovered from the effects of the injury sufficiently to enable him to regain his feet. He refused food and drink from the time he was shot until he died, on the fifth day. Cover-slips, prepared from the blood of the spleen, liver, and heart showed anthrax bacilli in nearly every field.

The other two animals, shot in the skin of the abdomen and in the right foreleg, respectively, at three hundred yards, recovered entirely.

These results show conclusively that the infection of anthrax can be carried on a projectile at long range, and that it is possible to thus infect susceptible animals.

Septic Powders.—*1. Black Powders.*—The extent of powder burn, tattoo, or marks inflicted at short range by firearms, etc., as observed in surgical practice, will convince anyone that the charge of powder is not entirely consumed in the generation of gases at the time of ignition. If one will recover the powder grains that can be caught in blotting-paper from firing revolvers at short range, and place these, together or singly, in a vessel, it will be found possible to ignite them almost invariably with a burning match, showing that the grains of powder that produce the tattoo of what we style "powder burn" are not destroyed by the act of firing.

It is estimated that only fifty-seven per cent. of the old black powder is consumed in generating the gases that cause the explosion, and that the remaining forty-three per cent. is thrown out in the original granular condition, each grain acting as a missile with velocity sufficient to inflict injury, the extent of which varies with the size of the powder grains, length of barrel, distance of the body from the muzzle, etc.

The bacteriology of gunpowders before and after firing, and the possibility of transmitting micro-organisms that may contaminate them into media or wounds at the moment of ignition is, I believe, a subject that has received no attention prior to the experiments about it to be enumerated.

The black gunpowder generally used in firearms is invariably contaminated with dirt, dust, and other impurities. This fact is so apparent that it hardly needs proof to demonstrate it. Still it was necessary for the purpose at hand to verify the matter, which I did, as follows:

Six gelatine rolls (Esmarch's plates) were prepared, each containing six grains by weight of Dupont's "F" black powder, such as our army has been in the habit of using for reloading the ammunition of the Springfield rifle and carbine.

Six bouillon tubes were similarly inoculated and placed in the incubator at 35° to 37° C. The latter were cloudy after the lapse of twenty-four hours, and hanging drops as well as cover-slips prepared from the different cultures contained bacteria of many different kinds. The gelatine rolls (Esmarch's plates) after forty-eight hours at the room temperature were invariably studded with colonies, varying in number and kind.

Sterilized black powder, when fired against plates of gelatine or agar-agar with blank cartridge or ball at short range from revolvers, rifles, or carbines, imparts

[1] Read before the Association of Military Surgeons of the United States, at Buffalo, N. Y., May 23, 1895.

no growth to the media in the majority of instances. When growth appears it is very sparing in the number of colonies. These may arise from the current of air that is forced against the plate with the expanding gases, or possibly from imperfect sterilization. The method of sterilizing adopted was to place the ammunition in an Arnold steam sterilizer for two hours. This does not always succeed, as some of the powder will show growth now and then when placed in suitable media.

As a matter of contrast to the negative results obtained by firing sterilized black powder into gelatine or agar-agar plates, if we take forty grains of black powder and mix it with ten grains of dust from the street, and fire the charge from a .45-calibre Springfield carbine at, say five feet, into gelatine or agar-agar plates, the plates will be found rich in colonies after the lapse of the prescribed time.

The experiments so far having justified the belief that unburnt grains of black powder might be made to carry micro-organisms into media, I determined to make the matter surer still by attempting to inoculate powder with a specific germ. I therefore inoculated black powder with anthrax spores as follows: The culture used was an old one on an agar-agar slant; the spores were mixed with fifty-five grains of powder taken from a shell of the .45-calibre Springfield carbine. The charge of powder was poured on a piece of white paper, and a platinum needle, properly sterilized in the flame, was passed once into the culture of anthrax spores, and then a number of times in and through the powder until the grains of the latter no longer adhered to the needle. The needle having been again sterilized, it was once more passed through the culture, thence through the powder as before. This was repeated four or five times for each charge of powder, six in all. The powder and ball were replaced in the shells. Two Petrie dishes, containing agar-agar, were placed in wire frames and the latter were suspended against the target four inches apart. The marksman, who held the muzzle of his carbine at five feet, was directed to locate the projectile as nearly as he could midway between the two plates. In this way a number of powder grains were collected on each of twelve plates, out of the six shots fired. The plates were at once placed in the incubator at 35° to 37° C. At the end of twenty-four hours four of them contained colonies of the bacillus anthracis.

Having recovered this uncommon germ in the manner stated, the proof seemed conclusive that contaminated black powder was apt to carry germs of any kind on those grains which had not ignited into media, and possibly into animals. To demonstrate the latter proposition I loaded six blank cartridges, each containing eighteen grains of black powder, infected in the manner described with anthrax spores. The weapon used was a .38-calibre Colt revolver, range one foot. Six rabbits were selected and each animal was shot in one or both ears. In four of the animals the unburnt grains of powder failed to penetrate the skin entirely—the grains projected above the surface; while in the other two the powder grains were for the most part well embedded in the skin and areolar tissue. The latter two animals sickened on the third day. One of them died on the fourth day, while the other recovered entirely. Cover-slips prepared from the blood of the heart, spleen, and liver of the dead animal, stained in a watery solution of methylene blue, revealed anthrax bacilli in nearly every field.

2. *Smokeless Powder.*—The experiments about to be described were conducted with the "Peyton" smokeless powder now used by the United States Army in the Krag-Jorgensen rifle. Although we have every reason to believe that this powder is contaminated by handling in the same way that the old black powder is, yet we fail to obtain growth when we place a few grains of it in media like bouillon, gelatine, or agar-agar, etc. This powder imparts a yellowish color to the media. After repeated trials I have failed in cultivating prodigiosus in bouillon to which a few grains of the powder had been added. It would seem from this that the "Peyton" powder contains a substance which inhibits the growth of certain bacteria in the medium mentioned. On the other hand, if a bouillon tube containing a few grains of the "Peyton" powder is inoculated with anthrax spores, growth will be noticed at the end of twenty-four hours under favorable conditions of temperature, showing that the restraining influence of the powder does not apply to the more resistant forms of germ life.

If the experiment of firing black powder into agar-agar or gelatine plates be repeated with the "Peyton" powder, whether this be sterilized or not, the powder grains which are caught on the medium impart no growth, as a rule. The yellowish discoloration already mentioned is invariably noticed around each grain. If, however, we purposely mix earth in the proportion of ten to twenty per cent. with the powder before firing, colonies will appear in great numbers in the medium beyond the areas of discoloration, and sparingly, if at all, within the latter.

Out of six gelatine plates fired into at ten feet with the "Peyton" powder which was previously contaminated with anthrax spores, colonies of the bacillus anthracis were observed in two of the plates.

Of three rabbits shot in the ears at four feet by the Krag-Jorgensen rifle loaded with thirty-seven grains (blank cartridge) of the "Peyton" powder which had previously been contaminated with anthrax spores in the manner already mentioned with black powder, one of the animals sickened on the third day and died on the fifth day. Cover-slips properly prepared from the blood of the spleen, liver, and heart, and stained with a watery solution of gentian-violet, revealed the presence of anthrax bacilli, though few in number. Sections of the liver and spleen, stained by Gram's method, exhibited the presence of the same bacilli in the vessels.

Conclusions.—The experiments and their positive results, as enumerated in this paper, as well as those detailed in a paper read before the Pan-American Congress, and also in the paper already mentioned in the *New York Medical Journal* of October 22, 1892, offer, in my opinion, a reasonable explanation for the occurrence of various infections like tetanus, malignant œdema, erysipelas, etc., in a fair proportion of the cases following gunshot injuries.

H. Nimier, a French army surgeon, in the *Archives de Médecine et de Pharmacie Militaires*, No. 25, 1894, relates four cases of tetanus after powder burn from blank cartridges. The injuries were inflicted during sham battles. The relief corps were promptly on the ground, and although all antiseptic precautions were observed, infection took place. In a recent letter Dr. Nimier informs me that the powder which caused the injuries was the old black powder.

Cases like these are difficult to comprehend unless we assume that the gunpowder was infected, or that, as often happens, tetanus earth had become accidentally lodged in the muzzle of the guns.

I believe that my experiments and their results justify the opinion that the infection of tetanus and malignant œdema can be conveyed by one or both of the ways mentioned, and unless I should be forestalled in the attempt, I hope to be able to demonstrate this as a fact to the Association at no distant day.

The Average Daily Amount of Opium used in India.—Sir William Roberts cites some illustrations of the large quantities of opium occasionally consumed by opium-eaters in India. He says that the average tolerance of the natives, judging from the practice of opium-eaters, appears to range from four to twelve grains of opium per day.

REPAIR AFTER A BONE-FLAP OPERATION ON THE SKULL.[1]

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SOME points as to the operation and the repair of the operation wound in the following case seem to be of sufficient interest to justify reporting it. The case was similar clinically to those cases described by Dr. Starr in his work on "Brain Surgery"[2] as presenting imbecility with hemiplegia. The pathological condition found at the autopsy, a year and a half after the operation, was porencephalus with localized atrophy or agenesis. The history of the case is briefly as follows:

D. O. C——, aged fourteen, was considered a healthy infant. He had spells of indigestion and while teething one or two convulsions. At five years of age, after slight exposure to the July sun, he had seven convulsions of the entire right side lasting seventeen hours. Twitchings were continuous for the first five hours and interrupted for the succeeding twelve hours. When consciousness returned there was paralysis and deafness on the right side and loss of speech. He remained in this condition for five weeks, when he began to move the right foot, and in ten weeks he walked with a cane. Hearing returned slowly on the affected side and it was six months after the attack before he began to speak, and speech has ever since been imperfect. His memory was good. One year after the attack he could walk well, but had little use of the right hand. At this time he had one or two epileptiform convulsions a day, which became more frequent and severe after an attack of measles at eleven years of age. He now began to fall in the seizures, which gradually increased in number and severity during the last five years. Among others Drs. Janeway, Weir Mitchell, and E. D. Fisher had been consulted, by the latter of whom he was referred to me with a view to operation, as a last resort, all other means having failed.

On admission to Bellevue Hospital, February 14, 1893, although generally well developed and well nourished, his right upper extremity showed contractures, atrophied muscles, and poor circulation, causing a cold surface and bluish skin. Speech was a decided effort, sometimes causing congestion of the face, and the result was imperfect. On attempting speech the motions of the lips and tongue were exaggerated and his chin was often wet with the increased salivary secretion. He was quite religious, the religious side of his mind being more developed than the intellectual.

After admission he had three or four epileptiform convulsions during twenty-four hours, sometimes with general twitching, sometimes with twitching of the left side only. His head was shaved and a soft-soap poultice and then an antiseptic compress applied to prepare for the operation on February 16, 1893. No abnormal appearance of the head was noticed. A horseshoe-shaped incision was made over the lower two-thirds or three-fourths of the left sulcus of Rolando, the base of the incision being directed downward toward the blood-supply. To prevent free bleeding and consequent increase of shock the incision was first outlined by a row of temporary, interrupted, overlapping silk sutures one-half inch beyond it. Similar sutures may be applied across the base of the flap in any given case if required. After retraction of the scalp the incision was carried down through the periosteum, which was stripped back for half an inch throughout the incision. The bone thus exposed was chiselled through by means of two V-shaped wood-carver's chisels of larger and smaller angles, the chisel with the larger angle being used first, that with the smaller angle last to complete the bottom of the groove. These chisels were bevelled and sharpened at the expense of the inner surface, for when sharpened as is usually done they have to be held so vertically that a large part of the blow of the mallet goes to produce concussion of the brain, as I had found in a previous case.

One remarkable feature of the case was the thickness of the skull, consisting mostly of diploëic substance, measuring three-fourths to one inch, and increasing the mechanical difficulty of the operation. Notwithstanding this, the division of the bone, was accomplished without great delay, and after partially chiselling through the base of the flap from either side, the flap of scalp, pericranium and bone, was turned down, exposing an area of dura mater measuring about two by two and three-fourths inches. The dura, which appeared normal though bulging, was divided in a semicircle, about one-third of an inch from the bony margin, and reflected back, exposing the pia mater. This appeared normal, but the brain bulged abnormally, showed but little pulsation, and on palpation felt unusually tense and elastic.

A small aseptic aspirating needle was introduced about three-fourths to one inch in the direction of the lateral ventricles from the posterior part of the exposed area, and a clear, pale, straw-colored fluid flowed out, confirming the diagnosis of porencephalus. About an ounce and a half of this fluid was kept for examination, and as much as one ounce more flowed away. The chemical examination of the fluid showed a very low percentage (less than 1.5 per cent.) of albumin, indicating that it was cerebro-spinal fluid from an enlarged lateral ventricle rather than fluid from an independent cyst.

A bundle of a few strands of silkworm-gut was passed alongside the needle into the cystic cavity for drainage and brought out of the postero-inferior part of the wound. Suture of dura mater, pericranium, and scalp with catgut in three layers. The operation was fairly well borne. He was very restless and nauseated with occasional vomiting for the next three days, which may have been due to slight concussion or to cerebral irritation from the wound. During the first twenty-four hours he had three convulsions, two during the second, and none during the third, twitching of the left side being still pronounced during the convulsions. The temperature rose to 103° F. on the second day, and again to 104° F. on the fourth, but otherwise was not much elevated.

The wound was dressed on the second, third, and fourth days, and afterward only occasionally. It healed by first intention. On the third day the drainage, which had been quite free at first, was discontinued on the advice of Dr. Fisher. Although about this time his mental and physical condition seemed as good or better than before operation, yet he soon sank into a semi-comatose state following a period of religious excitement. He passed urine and fæces in bed, scarcely spoke, and was very helpless.

From this condition he slowly improved, and when he left the hospital a month or so later he was in about the same condition as on entering. After returning home his family thought him better than before for a time. He lived for a year and eight months or so, gradually becoming worse toward the end, and died October 14, 1894.

Dr. E. D. Fisher was given the opportunity of examining the skull and brain, and found the following condition: The skull was found enormously thickened, especially on the left side, where it measured one inch in thickness, but also extending somewhat onto the right side in front. The "bone-flap," raised and replaced at the operation, was solidly united to the surrounding bone by a smooth, even, and non-adherent line of union. The incision in the dura mater was beautifully healed, and could only be located by a

[1] Read before the Section on General Surgery of the New York Academy of Medicine, May 13, 1895.

[2] Chapter III., Class 1.

slightly opaque line, seen on holding it up to the light. There were no adhesions between the membranes or between the dura and the bone. On the left side "there was a cavity extending from the motor area of the cortex into and continuous with the lateral ventricles. The whole left hemisphere was atrophied, the convolutions being shrivelled in appearance and the volume one-third less than the opposite hemisphere. There was evidence of a descending degeneration through the pyramidal tract as shown by the decreased size of the pons on the same side as the lesion, and of the opposite lateral tract of the spinal cord below the medulla. The opposite hemisphere of the cerebellum was also much smaller than its fellow. The pathological changes pointed either to a congenital condition, or at least one occurring in early childhood. I consider the lesion to have been a thrombosis or embolism in the course of the middle cerebral artery, leading to softening and final absorption of the brain substance, resulting in a cyst opening into the ventricles."[1]

At the time he left the hospital a simple trephining with long-continued drainage was advised, but not accepted. Kocher's encouraging results with long-continued drainage in cases of cerebral cysts are well known and promise more than any other plan of treatment. Whether this case would have been benefited by such treatment, it is impossible to say; but, judging from the pathological condition found post mortem, and from an unsuccessful experience in a somewhat similar condition subsequently, it seems to me extremely doubtful.

Several surgical points seem to be worthy of emphasis: 1. The considerable area of brain surface exposed. This in a case previously operated enabled me to discover and remove a spicule of bone piercing the dura mater and embedded in a small cortical cyst, which had escaped detection in a previous trephining.

2. The chisels used should be so bevelled on their inner surfaces that they may be held as flat as possible, so that as little as may be of the blow of the mallet will act directly to cause concussion, and as much as possible will glance from the surface, at the same time that it effects the cutting of the bone. This point was well exemplified in the first two cases that I operated upon by the flap method. In the first case chisels were used bevelled on their outer surface, and very marked concussion resulted. In the second case, the one above reported, in spite of the thickness of the skull, there was comparatively little concussion.

3. Hemorrhage can be spared and shock much diminished by encircling the proposed line of incision at a little distance by a number of temporary overlapping sutures. In the last case that I operated upon I did not employ this plan until forced to do so by the free bleeding, and the blood lost in the meantime added much to the subsequent shock.

4. This case shows (*a*) that this method is applicable even in the most unfavorable cases where the skull is enormously thickened. (*b*) That the bone-flap may heal firmly and with a smooth inner surface not adherent to parts beneath. From a clinical stand-point the replacing and reuniting of bone, thus protecting the brain substance, is very desirable, especially in cases where a large area is exposed. (*c*) That dura mater, after incision and suture and the use of drainage of the lateral ventricles, passing through the suture, for two or three days, may heal without adhesion either to the bone or to the pia mater. This seems to me to be an important and encouraging fact in exploratory or other operations upon the brain, as it is not what has been usually expected under the circumstances. After a trephining, when the button of bone is not replaced, we invariably expect to have the dura mater become adherent to the scalp. The contraction of this new-formed cicatricial tissue may reproduce the irritation temporarily removed by the operation. In fact, the great obstacle of cerebral surgery lies in the fact that the removal of a scar or any incision of the parts necessitates a scar in the healing process following the operation, and this notwithstanding many ingenious devices to prevent it.

For a time surgeons were very sanguine and enthusiastic in brain surgery and remarkable developments were made, but a reaction set in when it was found that many of the cases of supposed cures, already in the minority, relapsed after a certain length of time.

In view of these facts it seems encouraging to find a case where a large area was exposed for exploration, where the dura was incised, and the lateral ventricles drained for a few days, and yet a year and eight months after the operation there was perfect and smooth union and no adhesions.

Whether such a result is to be expected from similar operations, or was exceptional in this case, cannot be judged from a single instance, but only after further experience. If this result should be confirmed by other cases the outlook for operations on the coverings, if not on the cortex of the brain, would be more encouraging.

117 East Thirty-sixth Street.

[1] Report of Dr. E. D. Fisher.

Progress of Medical Science.

A New Method of Cholecystotomy.—Block (*Rev. de Chir.*, February, *British Medical Journal*, March, 1895) describes a new method of performing cholecystotomy, devised with the view of avoiding on the one hand peritonitis, which often results from the giving way of sutures after immediate closure of the wound in the gall-bladder, and, on the other hand, the formation of firm adhesions between the gall-bladder and the abdominal wall after the establishment of a temporary fistula. In the method called extra-abdominal cholecystotomy, which is advocated by the author, and was successfully practised by him in a case recorded in his paper, the distended gall-bladder is drawn through the abdominal wound, and a portion about the size of a hen's egg outside this wound by sutures, until adhesions have formed and the peritoneal cavity has been closed. The gall-bladder is then opened, and any gall-stones it may contain are removed. The wound in its coats having been closed by sutures, the gall-bladder, after a further interval to allow of complete cicatrization, is separated from the margins of the incision in the abdominal wall and returned into the peritoneal cavity, the external wound being finally closed.

The Treatment of Chlorotic Dyspepsia.—Dr. Huchard directs that milk shall be used, or, if this is badly borne, pure water or a hot, weak, infusion of tea (hot drinks excite the gastric secretion), eggs, *purée* of vegetables, lean fish, fowl, and cooked fruits. One-half hour before the meal a small dose of an alkali, as sodium bicarbonate, seven grains, should be prescribed, for the purpose of exciting the flow of gastric juice. At the same interval after it a Madeira glass of hydrochloric acid in solution in water, one to two hundred and fifty. The hydrochloric may be replaced by lactic acid, fifteen to thirty grains, after meals. It is necessary to forbid the use of wines, quinquina wine, strong beers, alcoholic drinks, and stimulating food. If there are gaseous formations, lavage, either of pure water or water containing salicylic acid, one per mille, is indicated. After two to four weeks of this treatment the use of the preparations of iron can be begun, of which the proto-salts are preferable, oxalate, lactate, chloride, and iodide, in small doses, one and one-half grain, twice daily, and not to exceed six and one-half grains daily, if we shall avoid symptoms of gastric intolerance.—*The American Journal of the Medical Sciences.*

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A LANDMARK IN PUBLIC HYGIENE.

MODERN statecraft has wisely taken upon itself the function of protecting nations and communities against the invasion of disease. Driven by the sadly repeated experiences of less enlightened people to the realization that disease and death result in far greater loss to the community than wars or financial convulsions, the public men of more advanced nations have sought to protect their people against epidemics, which have, until recent time, brought fatal stagnation upon commerce and clogged the wheels of prosperity. Quarantine regulations and other sanitary requirements have thus come to be enforced by legal enactment. Evolved from these, laws against adulteration of food and drink, laws to regulate the standard of illuminating fluids, and others seeking to protect the individual, were entered upon the statute-books. Laws to provide for proper construction, plumbing, light, and ventilation in tenement-houses, and to prevent overcrowding of the dependent classes, are the most recent outcome of that higher phase of public hygiene which recognizes the full force of the fact that public health is more endangered by disregard of the sanitary conditions of the poor than by all other causes. This class forms a large proportion of all communities; their crowded condition and unclean habits, enforced or voluntary, favor the more rapid introduction and spread of contagious and infectious diseases, which may thus be readily introduced among other classes of the population. To enable the dependent portion of a community to withstand the inroads of disease is to erect a bulwark for the whole population. The Legislature of New York has demonstrated its recognition of this truth by the passage of two acts, which distinguish it as one of the most enlightened legislative bodies of the day. One is an act creating two public parks in the very midst of the overcrowded tenement district, and appropriating three million dollars for the purpose. The benefits that will accrue to these people by reason of the increased breathing-space thus placed at their disposal is incalculable, and readily appreciated by the most superficial observer. But a far more potent auxiliary for the maintenance of health and resistance to disease is afforded by another act of the Legislature, which provides that all cities of the first and second classes shall establish and maintain such number of free public baths as the local board of health may determine to be necessary, to be kept open every day for fourteen hours, provided with hot and cold water, etc. Thus it has been made incumbent upon the authorities of all large cities in this State to furnish the means of personal cleanliness to its people by baths which shall be as free and accessible to them as the air they breathe.

The enactment of these laws may be regarded as a landmark in public hygiene. The first furnishes pure air to aid the system in ridding itself of products which are eliminated by the lungs; the other furnishes means for furthering the elimination of impurities through the skin. While the importance of the former is accepted, the full import of the latter still requires to be enforced upon the lay public. Upon the medical profession devolves the duty of inculcating the enormous value of personal cleanliness as a means of preserving the body in health and endowing it with resistance to disease. It behooves us to encourage, support, and urge upon the authorities the immediate execution of the salutary laws providing free baths for the dependent classes.

This city is especially fortunate in the possession of a Board of Health which has signalized its justly high position among sanitary bodies by excellent scientific and practical work. We are informed that the City Board of Health has long been interested in the public bath question, and has encouraged the originator of the free bath movement in his earlier struggles for the passage of the recent laws. It is gratifying, therefore, to note that the Board is also earnestly considering the best method of carrying the public bath act into vigorous execution by recommending the construction of several rain baths. The adoption of the rain bath has solved the public bath problem satisfactorily. By its means alone large masses of people may receive thorough cleansing without the possibility of contamination, and with the most economical expenditure of money on the part of the city and the least loss of time on the part of the bather. Its superiority to the swimming pool is unquestioned. It was introduced in this country by Dr. Simon Baruch in his report as chairman of the Committee of Hygiene and Public Health of the County Medical Society, in October, 1889, and has since that time been adopted by many public institutions and philanthropic societies. That it is popular among the working classes is demonstrated by the fact that the People's Bath at Centre Market Place, in this city, has bathed over eighty thousand people in one year, despite the fact that a fee of five cents was exacted. Indeed, this enterprise, which was the immediate offspring of Dr. Baruch's report to the County Society, has demonstrated forcibly the superiority of the rain bath as a public bath, inasmuch as in a space of sixty-one feet by twenty-seven feet it furnishes accommodations for nine hundred bathers daily. There is no reason to doubt that our city authorities will adopt this style of bath.

It has been suggested that a portion of the new parks and several of the older ones in the tenement district be utilized for the erection of public baths. The space occupied would be exceedingly small; the buildings require only one story, and would therefore not interfere in the slightest degree with the chief object of the park, which is to furnish breathing space for the tenement dwellers. The adoption of this course

would not only save the cost of building lots, but it would enhance the value of one hygienic measure by the utilization of the other. The Park Board will doubtless realize the importance of this combination of recreation with utility, and lay no obstacles in the way of accomplishing so salutary a movement without marring the comfort and pleasure of the populace.

We would urge the rapid construction of these public baths upon our city authorities, who may thus not only endear themselves to the hearts of a grateful constituency, but also erect for themselves a monument more enduring than brass.

THE SCHOOL TEMPERANCE LAW.

GOVERNOR MORTON has signed the new temperance school law providing for the regular and systematic instruction of children in the nature of alcoholic drinks and other narcotics. Viewed from one aspect, we are not surprised to learn that the said law was unanimously passed by the late Legislature, and that the Governor himself had no hesitation in affixing his judicial sanction to the measure. In the line of public policy the movement naturally appears to be based on the soundest of principles. The evils of intemperance in stimulants and narcotics are manifold and terrible, and any education, elementary or otherwise, that may tend to mitigate them needs every encouragement.

The question whether or not this particular method will be practically beneficial, remains to be seen. On its face it does not appear to be necessary to educate children concerning any principles of belief or action that they cannot directly or indirectly apply to their own and immediate needs. Why they should be guarded against these forms of intemperance any more than any other possible evil, is not easily seen. Aside from an extra burden in their studies, it is impossible to teach them properly on the real points at issue. It may be enough to say that liquor and opiates are poisons, and should be avoided as such, but to attempt to explain, through necessarily incompetent teachers, the whys and wherefores of pathological changes of tissues, the relation of cause and effect in functional and organic disturbances of the kidney, stomach, brain, and nervous system generally, is absurdly inconsistent with the ostensible aim in view.

The law is a most unwise and oppressive one, and is only to be looked upon as an example of the morbid excesses of the temperate.

STATE CARE BILL NOT APPROVED.

MAYOR STRONG refused to approve of the bill for transferring the care of the city insane to the care of the State, and Governor Morton has also declined to sign the bill, despite the pressure brought to bear upon him from all sides. The State Lunacy Commission worked itself into a very hysterical condition over the matter, and the Chairman of the Commission wrote a letter to the Governor, which was of course published in all the daily papers, and which portrayed the prospective condition of the city insane in New York in the most affecting way.

Now that the matter has been settled for the present, we trust that the public, or, more particularly the State Lunacy Commission and those who have made a personal matter of the State Care Bill, will allow the authorities of this city to have their chance. The city at present has an excellent Board of Charity Commissioners, who are ambitious to place the care of the city insane, as well as of the other sick, upon the very best basis. They will have, we believe, the hearty co-operation of the medical profession of the city, and we trust that the philanthropists who have felt that New York could not possibly care for its own sick will at least give the present authorities an opportunity to try. In some curious way it happened, during the last few months, that absolutely nothing was introduced into the daily papers, except articles laudatory of the State Lunacy Commission and of the bill for the State care of the insane. No other side of the subject was allowed to appear, yet we venture to say that there is another side, and we have at various times tried to present it calmly and honestly. We trust that this side will be considered now.

THE HARLEM HOSPITAL.

SOME surprise was created in medical circles last week by the announcement that the Medical Board of the Harlem Hospital had been removed. Explanations from the Charity Commissioners showed, however, that this was simply a part of a scheme for the reorganization of the service, and did not reflect at all on the medical men who composed the board. It is, so far as we can learn, the design of the Commissioners of Charities and Correction to place the nominating power for positions on this board in the hands of the three undergraduate medical colleges of the city and the non-collegiate division of Bellevue Hospital. The Commissioners in this way expect to throw the responsibility of securing good men for the position upon the teaching organizations of the city. This plan has worked very well in connection with Bellevue Hospital, and it is, we presume, inferred that it will be equally successful if applied to other institutions under their care.

The Medico-Legal Society of Chicago.—The following officers have been elected for the current year: *President*, Edmund J. Doering, M.D.; *Vice-Presidents*, Cassius D. Westcott, M.D., and Sanger Brown, M.D.; *Treasurer*, Joseph Matteson, M.D.; *Secretary*, John Ridlon, M.D.

Commencement of the College of Physicians and Surgeons.— The medical department of Columbia University held its annual Commencement in connection with that of the University on June 13th.

St. Luke's Hospital, expects to move its patients to its new building in the fall. As a result of this proposed change, and the sale of a good many lots on its present property, it has been obliged to decline to receive new patients for the present.

News of the Week.

The Cartwright Prize, offered by the Alumni Association of the College of Physicians and Surgeons, was awarded to Dr. James Ewing.

Laboratory Infection and Accident Insurance.—A curious case has occurred in Hamburg. Dr. Oergel, of the Hamburg Bacteriological Institute, died recently of an attack of cholera contracted while working in the laboratory with cholera bacilli. He was insured against death from accident, but not against death from disease. His widow brought suit for the insurance money, claiming that the death under the circumstances was really accidental, and not, strictly speaking, death from an infectious disease. The widow, as might have been expected, lost the case.

The Confinement of Mr. Andrew Lang.—Mr. Andrew Lang, who among his other duties has assumed that of correcting all the minor mistakes of the world, has recently criticised Mr. Brander Matthews for asserting that certain alleged Americanisms were really Britishisms. Mr. Lang denies in part, explains in part, and ends with a freshly gathered Americanism from the New York *Herald*, which he considers to be a particularly aberrant form of speech, viz.: "Mrs. —— has been successfully confined." The *British Medical Journal* prints a letter from a correspondent who in a very liberal spirit denies that the expression is incorrect, and says that if the Americans devised this phrase they deserve credit for their invention.

Utah State Medical Society.—In February of the present year a Medical Society was organized in Utah, its membership comprising almost all of the best known physicians in the Territory. The first annual meeting will be held October 1st and 2d. The following is a list of officers elected for the first year: *President*, F. S. Bascom, M.D.; *First Vice-President*, Walter R. Pike, M.D.; *Second Vice-President*, G. W. Perkins, M.D.; *Secretary*, J. N. Harrison, M.D.; *Treasurer*, S. M. Wilson, M.D.

Alumni Association College of Physicians and Surgeons.—The following change in the constitution of the Alumni Association was made at the annual meeting held June 10, 1895. All graduates of the College of Physicians and Surgeons in good standing in the profession, or engaged in other honorable occupations, may become members of this Association upon notifying the secretary of such desire and upon the payment of annual dues of $3.

The Thanatopsis Home.—*The Journal of the American Medical Association* refers to the fact that the *Evening Post* has urged the advantages of a "Home for the Dying" in this city. It is suggested that it be called the Thanatopsis Home, as being more appropriate than Home for the Dying, and as doing honor to the former great editor of the *Post*.

The Johns Hopkins Hospital is to build an addition to its dispensary.

Professor Von Esmarch has been made an honorary member of the Académie de Médecine.

The Late Dr. Matthew D. Field.—The following was passed at a recent meeting of the Alumni Association of Bellevue Hospital:

Whereas, Death has removed from our midst our fellow-member, Dr. Matthew D. Field,

Resolved, That the Society of Alumni of Bellevue Hospital has lost a valued and representative member whose devotion and interest did much to advance the Society;

Resolved, That we extend to his family our sincere sympathy in their great loss;

Resolved, That a copy of these resolutions be entered on the minutes of the Society, and that they be published in the New York medical journals.

WISNER R. TOWNSEND, *Chairman*,
WILLIAM B. ANDERTON,
GORHAM BACON.

Dr. J. R. Quinn, of Brooklyn, has recovered $8,000 for an injury caused by a brewer's truck colliding with the doctor's gig and throwing him onto the pavement.

A School of Medicine for Women is to be opened at St. Petersburg, Russia, under the auspices of the State.

Medical Missions in India.—This is the title of a small quarterly journal published at Ajmere. The subscriptions for the journal are taken by Dr. Carleton, of Philadelphia, and the price is the modest one of forty cents per annum.

A Curious Law of the State of Oregon.—A clause in the laws of Oregon provides that every physician who shall use or prescribe any opium, morphine, or other narcotic, shall enter in a book kept for such purpose a full record thereof, and this record must be open for the inspection of the public. It is also provided that any physician who shall use or prescribe any narcotic shall first procure from the County Court a license to dispense the same. The law is several years old, and is naturally a dead letter.

Uniforms of Army Surgeons.—During the war the army surgeons wore for a short time a green sash as an emblem of their calling. This was soon changed for the letters "M.D.," which were inscribed upon the shoulder of the coat. Later on a shield was worn as being less of an advertisement of the occupation of a surgeon. It is proposed to change the insignia of the medical corps again, and the proposal is made that the Geneva cross be adopted, this symbol to be worn upon the cap and the shoulders of the coat.

Meetings of Societies.—THE NINTH FRENCH SURGICAL CONGRESS will be held in Paris during the week beginning October 21st. The two subjects for the set discussions are: 1, Surgery of the Lungs, not Including the Pleura; and 2, Early or Late Operative Interference in Fractures of the Bones, those of the Cranium and Spinal Column Excepted. The President of the Congress will be M. Eugène Bœckel, and the Secretary M. Lucien Picqué, 8 rue d'Isly, Paris.—THE FRENCH CONGRESS OF MENTAL AND NERVOUS DISEASES will hold its annual meeting at Bordeaux on August 1st.—THE ASSOCIATION OF GERMAN ALIENISTS will hold its annual meeting this year in Hamburg, on September 13th and 14th.

Obituary Notes.—Dr. Alexander Pope died suddenly, at his residence in this city, on June 12th. Dr. Pope was found dead in his bed at midnight, his death being due, it is supposed, to heart failure. He was thirty-five years of age, a graduate of the University of Athens and the College of Physicians and Surgeons of New York. He had been connected for a time with the Polyclinic and the Vanderbilt Clinic of this city.—Dr. W. Carroll Chapman, a prominent physician of Louisville, Ky., died in that city, on May 28th, of cerebro-spinal fever.—Dr. William B. Wallace and his son, Dr. Alphonse Wallace, of this city, both died of pneumonia on June 7th. The elder Dr. Wallace graduated from the College of Physicans and Surgeons in 1871, and subsequently built up a large practice. He was known to the public as an ardent Irish patriot, and was considered one of the most eloquent orators among his countrymen in America. He was one of the organizers of the Irish National Land League of America. Dr. Alphonse Wallace was twenty-seven years of age at the time of his death, and was well known among the medical fraternity as the examining physician of the Department of Charities and Correction.—Dr. Aristide Verneuil, the well-known French surgeon, died in Paris, on June 14th, at the age of seventy-two.

Smuggling Phenacetin.—It is stated that phenacetin and sulphonal in large quantities have been smuggled into the United States by way of Canada.

Disciplinary Treatment for Degeneracy.—We are pleased to learn from our esteemed contemporary the *British Medical Journal*, that the health of Mr. Oscar Wilde, now in penitential seclusion, is very good.

Dr. Oscar H. Allis has been awarded the S. D. Gross Prize of $1,000 for an essay entitled "An Inquiry into the Difficulties Encountered in the Reduction of Dislocation of the Hip."

Heroism of Medical Officers in the Chinese War.—An item which must excite admiration is reported by a correspondent at Wei-hai-wei in the current number of the *Broad Arrow:* "Now came a touching proof of heroic devotion to duty. While the storm of lead was still hurtling thickly through the air, a company of Red Cross men, always well to the front, appeared on the field, stolidly marching out from the ravines, two and two, with stretchers and 'first-aid' appliances for their comrades, right under the withering fire from the gunboat, with never a moment's hesitation. Unarmed, but for a paltry dirk at the side, helpless in any case against such an attack, with foes heedless or ignorant of the sacred significance of the Red Cross badge, they did not flinch for a moment on their errand of mercy. It would have been easy to wait until the fire should cease, but they nobly went on and did their work as if on their parade-ground at home. One by one the dead and wounded were sought out all over that wide field of blood, and borne away, until within twenty minutes the place was completely cleared of every man, living or dead. Colonel Taylor, A.M.S., declared it the most splendid deed he ever saw, and the other foreign attachés who saw it were equally emphatic in their praise."

A Heavy Brain.—Dr. James Middlemass, of Edinburgh, reports the case of a senile dement who died at the age of seventy of an attack of pneumonia. The brain weighed immediately after removal 65¼ ounces. The man had been insane for many years, also deaf, dumb, and nearly blind. The interest in the case lies in the fact that he had a brain of maximum weight which was practically of no use to him at all, for he had been demented for many years. Dr. Levinge has reported the case of an imbecile who had a brain weighing 70½ ounces.

Increase of the Medical Profession.—Professor Brouardel, at a recent meeting of the Medical Association of the Department of the Seine, said that the increase in the number of medical students in France continued to be very great. In all the French faculties the number of physicians, he said, were twice as numerous as they were ten years ago. The cause of this, Professor Brouardel thinks, is the publicity accorded to the achievements of medical science. Day by day, he says, one sees in the newspapers the great importance attached to public health, and parents conclude that medicine offers a great and lucrative career for their sons. The medical profession of France is already overcrowded and, promises to suffer very much more from this state.

Mandelate of Antipyrin.—M. Rehn states that this salt possesses the properties of the ordinary form of antipyrin without being poisonous. It is obtained by treating antipyrin with mandelic acid. The dose given is five to ten centigrammes for children from three to five years of age.

Dr. Heitzmann, of this city, has been visiting Vienna, and was recently a guest of the Vienna Medical Society. He there read a paper on his microscopical researches, in which he asserted that he was the first to prove that the red blood-cells had a reticulated structure.

Abuse of Lunatics by Monks.—Brother Heinrich, one of the monks at Mariaberg, Prussia, has been arrested on the charge of ill-treating the insane patients in the monastery. The exposure of the cruel treatment of the insane has led to a demand in the Prussian Landtag, that the Government take effective measures to render such misdeeds impossible in the future, and to regulate the conduct of that and similar asylums in accordance with medical science and under complete State surveillance.

New York Polyclinic.—At the last meeting of the Faculty of the Polyclinic Medical School and Hospital, Dr. Wilbur B. Marple was elected Professor of Ophthalmology; Dr. W. R. Pryor, Professor of Gynecology; and Dr. W. R. Townsend, Professor of Orthopædic Surgery.

Yale Medical School.—The annual address in medicine will be delivered by Dr. T. Mitchell Prudden, of New York City, at the Battell Chapel, Yale University, on Tuesday, June 25th, at 12 o'clock, noon. The subject is "New Outlooks in the Science and Art and Medicine." A reception will be given to the orator in the evening at the residence of Professor W. H. Carmalt.

Society Reports.

AMERICAN GYNECOLOGICAL SOCIETY.

Twentieth Annual Meeting, held in Baltimore, May 28, 29, and 30, 1895.

MATTHEW D. MANN, M.D., OF BUFFALO, PRESIDENT.

(Continued from page 761.)

THIRD DAY, THURSDAY, MAY 30TH.

Specimens Removed by Vaginal and Abdominal Hysterectomy.—DR. R. STANSBURY SUTTON, of Pittsburg, presented a number of smaller uterine fibroids removed with the uterus per vaginam, and some much larger, removed by suprapubic hysterectomy, the entire number of cases so operated upon from November 1, 1894, to May 1, 1895, having been twelve, with twelve recoveries. In one of the cases the appendages had been removed twenty months previously, but the woman had not been cured, and he might say that in this and several of the other cases the only procedure which offered a cure was total castration. Dr. Sutton had removed the uterus with fibroid and fœtus in three cases, all of the women recovering. He was always willing to sacrifice the life of the fœtus in order to save that of the mother.

The discussion on the papers of Drs. Jacobs, Wathen, Henrotin, and Sutton was then opened by DR. MONTGOMERY, of Philadelphia, who thought that no other papers would have a greater influence on the profession and upon the welfare of those coming under their care. He was sure that all would consider the questions raised without prejudice and solely from the stand-point of obtaining the best results, remote as well as immediate, for their patients. After reviewing the figures given in Dr. Jacobs's paper, Dr. Montgomery stated that no other operative procedure than total vaginal castration could have given better immediate results for the class of cases under consideration. A total mortality of only three per cent. in a large series of cases naturally raised the question whether vaginal hysterectomy should not be preferred to the abdominal method. Dr. Montgomery seemed to think that the complication of fistulæ, which occurred only nine times in Dr. Jacobs's series of four hundred and three cases of total vaginal castration, was more than offset by the occurrence of the same accident, of inflammations arising from the presence of ligatures, etc., in the abdominal operation. Then the latter method had the further disadvantage of a longer convalescence, an abdominal scar, danger of subsequent hernia. The vaginal method had the advantage that the first step could be used as an exploratory one to determine whether it was necessary to go further.

Dr. Montgomery would not go as far as Dr. Jacobs, and assert that in every case of bilateral disease of the appendages the ovaries, tubes, and uterus should be removed. Nor would he be willing to admit that in every case of ectopic gestation both tubes and ovaries were involved. Indeed, he had seen, as he supposed many others had, cases in which pregnancy had occurred after removal of one tube and ovary for ectopic pregnancy. He did not, therefore, regard this as an indication for hysterectomy, and he was inclined to think that the site of the disease could best be reached through the abdominal route.

Dr. Montgomery approved of the vaginal method in removing the uterus for malignant disease and fibroids, but in the case of the latter he agreed with those who held that in some instances the tumor could be taken out and the uterus left. The speaker also thought that in some cases of pelvic exudation, and even of abscess of one ovary, an operation short of castration could be performed which would restore the patient's health and leave her in condition to bear progeny.

DR. J. M. BALDY, of Philadelphia, said he would limit his remarks to a comparison of the abdominal and vaginal methods of performing hysterectomy in cases other than malignant disease and general suppurative peritonitis. He would admit that the danger of hernia was a real objection to the abdominal method, but he would not admit that it occurred in capable hands in six per cent. of the cases. The argument that the patient could not get out of bed within a week after vaginal hysterectomy had no weight with him, for he did not believe that any woman should be allowed to get up inside of a month whose condition had been bad enough to demand hysterectomy at all. A strong objection against the vaginal method was the fact that it was more difficult, and required a third longer time during which anæsthesia had to be continued. As to the dangers, Dr. Jacobs had given a list of four hundred and three cases with nine fistulæ, while Dr. Baldy could cite two hundred and thirty-four cases by the abdominal method with no fistulæ. Because of these fistulæ Dr. Jacobs had been compelled to resort to two of the most dangerous of all operations. By the abdominal route one would never remove the pregnant uterus and not know that pregnancy existed, nor would he do a bilateral operation for unilateral disease of the appendages. Nor did one fail to complete the operation by this route, whereas all the gentlemen accustomed to doing vaginal hysterectomy had admitted to having left a part of the tissues which should have been extirpated.

As to the relative mortality, Jacobs had given a series of vaginal hysterectomies by himself, Péan, and others, with a mortality of 4.6 per cent. out of 724 cases. In strong contrast with this he could quote 224 operations by the abdominal route performed by such American operators as Polk, Pryor, Krug, Penrose, and Kelly, with a mortality of only 2.7 per cent.

DR. W. M. POLK, of New York, said the vaginal method was not at all recent, but it had been made practical since its first introduction by the experience which men had had in perfecting suprapubic work. Any person who had become expert with the latter could do the former successfully. Regarding conservative work on the appendages, even this could be done through the vagina provided one made his approach between the vagina and bladder so as to bring the appendages well within reach. Yet, owing to a fixation of the uterus in the upper part of the pelvis, one was liable to meet with disappointment in about half the cases. By the abdominal route all could be reached. Small ovarian growths, with comparatively few adhesions, and situated in the lower portion of the pelvis, could be most easily removed from below, although the mortality-rate was small by either method. There might be a difference of opinion as to the necessity of sacrificing the appendages in all cases of hæmatosalpinx and hydrosalpinx, but none in cases of pus collection, and inasmuch as the uterus was no longer of service without the appendages many believed it should also be removed. This was the class of cases, he thought, which Dr. Baldy had had chiefly in mind, cases of ovarian abscess, pus tube, and perhaps peritoneal pockets of pus. The adhesions might be very extensive. The cases could be separated into two classes, those in which the tubes and ovaries were so diseased that they were practically useless, yet were comparatively free from adhesions, and vaginal hysterectomy was very simple; and those in which the adhesions were great and would make the operation very difficult. Here he thought evacuation of the pus cavity and drainage by the vagina would be safer, leaving a more radical operation for a later date.

Regarding puerperal cases, Dr. Polk believed that when the case had reached the stage where operative interference was indicated the infrapubic route would be attended by much less shock, which was an important factor to be avoided in these cases. Owing to the relaxed condition of the pelvic organs after

pregnancy they could be removed more quickly through the vagina than from above. The speaker regarded the suggestion of Dr. Henropin as of very great value, namely, to make vaginal incision early in cases of pelvic inflammation where there was reason to believe that it had passed beyond the uterus.

As to the method of doing vaginal hysterectomy, Dr. Polk expressed his preference for the use of ligatures on the lower vessels, reserving clamps for a later stage, in order to acquire all possible room.

Dr. S. C. Gordon, of Portland, Me., conceded the brilliant results claimed by Dr. Jacobs and other experts in operating from below, and he had practised that method to some extent himself, but must express his preference for the suprapubic operation. He thought one could do better by sight aided by touch than by touch alone. He thought it was objectionable to pull down the ovaries and examine them, as Dr. Polk had recommended; they could not be returned to their former position if one should decide not to remove them. Then one could repair existing fistulæ much better from above.

Dr. W. Gill Wylie, of New York, said he had not performed vaginal hysterectomy in a very large number of cases, about fifty-five, and the results had been better, so far as the mortality was concerned, than by suprapubic hysterectomy, there having been only one death, but he did not believe they would have been better had the cases been of a similar nature. In private practice his mortality-rate by the suprapubic method would, at present, hardly exceed one per cent.; even in Bellevue Hospital it would not exceed three per cent. He regarded the vaginal procedure as much more difficult where the adhesions were high, and he doubted whether he should ever adopt it in that class of cases; the future would have to decide which method would give the best results. General surgeons would probably prefer the abdominal method.

Dr. Joseph E. Janvrin, of New York, had limited most of his vaginal work to cancer of the uterus and to removal of such fibroids as did not require hysterectomy. He thought that in tubal pregnancy, if the condition were recognized early, there should be no disease in the opposite tube, and hence there could be no necessity for its removal, and with it the removal of the uterus.

Dr. McGonigal, of California, maintained that it was not justifiable to remove the uterus for salpingitis without pus. Where pus existed it was justifiable to do complete castration, either from below or from above, but he had only practised the latter method. He thought it was a matter of personal judgment as to which route should be chosen. He agreed with Dr. Baldy, that fistula was much more likely to occur in operating from below, for out of seventy-two suprapubic hysterectomies the speaker had not had fistula of the bowel once.

Dr. William T. Lusk, of New York, thought that all were agreed as to operating from below where it was necessary to remove the uterus for cancer and for fibroids of medium size. In the case of pus tube, as long as there was a probability in a given case of its being unilateral, he would prefer to follow Dr. Polk's practice of saving the appendages on one side, together with the uterus. Regarding tubal pregnancy, he had operated upon a good many cases, and could not recall one in which the tube and ovary which had been allowed to remain had undergone disease, with the exception of one case in which carcinoma developed three years afterward, quite independently of the tubal pregnancy. Not approving, then, of Dr. Jacobs's recommendation, to remove the uterus in tubal pregnancy, he would prefer to operate from above.

A great deal had been said about operating from below in inflammation with supposed collection of pus. In talking to the family physician he found this gentleman was afraid to give morphine through fear it would mask symptoms; he was afraid to give an antipyretic for the same reason; he must not apply a blister, he must not use alcohol, he must only give something with a view to killing bacteria, or preventimg the development of streptococci, until a gynecologist could be sent for and operate upon the patient. Dr. Lusk thought we should remember that in this class of cases those recently confined and having a little afternoon temperature would, ninety-six times, he might say ninety-nine times in a hundred, recover if let alone, whereas if we undertook an operation we assumed a great responsibility.

Dr. H. C. Coe, of New York, said a point alluded to by Dr. Lusk had been impressed upon his mind very strongly within the past three weeks by being requested in three cases, in the event that an operation were decided upon, that it be done only through the vagina. Patients were becoming educated in gynecological matters, and many of them absolutely refused to have laparotomy, but would submit to a vaginal operation. He agreed with Dr. McGonigal that strong and high adhesions often complicated disease of the appendages and an exact diagnosis could best be reached after opening the abdomen. None of the speakers had referred to supplementary hysterectomy. He had been compelled to resort to this in four or five cases, operated upon three or four years before by removal of the diseased appendages, but which had not given relief. In such cases nothing was easier than to remove the uterus through the vagina.

Dr. Ely van de Warker, of Syracuse, indorsed the views expressed in Dr. Henrotin's paper, and said his own paper, to be read next day, contained a case showing the advantage of early vaginal incision.

Dr. Jacobs made some concluding remarks in French, Dr. Henrotin acting as interpreter. He said discussions were much more interesting here because Americans were much ahead of Europeans in this variety of work. They were slow in adopting new measures in the old country. Whatever might be the immediate results of the two methods of operating, he thought that if one would follow his cases for months or years after abdominal section, he would find that they were not as well off physically and mentally on account of the presence of the scar as they would have been had the vaginal method been adopted.

Drs. Henrotin and Wathen also made some closing remarks.

The Treatment of Puerperal Eclampsia.—Dr. Thaddeus A. Reamy, of Cincinnati, in a paper on this subject, related about half a dozen cases of puerperal eclampsia which were treated successfully by large doses of Norwood's tincture of veratrum viride, or by this agent combined with morphine. Most of the patients had been treated unsuccessfully by other means before he was called. Nothing could have been more striking than the promptness with which the convulsions had been arrested as soon as the veratrum viride had had time to act upon the heart and vaso-motor system. It had been shown by Dr. Jewett, in 1887, to be one of the most potent spinal and arterial depressants. It produced general vaso-motor paralysis. The advantage of the agent went further than to arrest the convulsions, for it produced copious perspiration and diuresis, and thus rid the system of the toxic ingredients producing the convulsions. The patient could take half a drachm of the tincture without danger, and he had given twenty-five minims hypodermatically. If alarming symptoms developed, they could be counteracted by morphine. It had been said that blood-letting would accomplish the purpose, but it was less effectual, was not without danger, and deprived the patient of blood which she would need afterward.

The Prophylaxis and Treatment of Puerperal Eclampsia.—Dr. Edward P. Davis, of Philadelphia, read the paper. Three or four cases were related, in which, as soon as nervous symptoms, headache, etc.,

developed, pointing to toxæmia which was likely to result in eclampsia if allowed to go on, he instituted treatment by calomel, hot pack, etc., increased the flow of urine and the function of the skin and bowels, and thus obviated convulsions. There might be no albumin in the urine, yet the diminished secretion, resulting in retention of toxins, would lead to headache, restlessness, sleeplessness, apprehension, even melancholia and mania, and finally to eclampsia. Physicians should learn that no progress could be made in the treatment of such cases by bromides. The excretions must be augmented. One should make a careful study of the urine during pregnancy, especially as to the quantity of urea and entire solids. It was a great mistake to suppose that the pregnant woman could be in no danger as long as the urine was not highly albuminous. In many cases of eclampsia or threatened eclampsia, it contained no albumin or very little. As soon as eclampsia set in there were two indications, one being to promote copious elimination, the other to empty the uterus. The poison which threatened the mother often killed the child.

Dr. W. T. Lusk said his own experience in puerperal eclampsia had been chiefly of interest in speedily emptying the uterus.

Dr. Lapthorne Smith, of Montreal, thought that as soon as there was the slightest danger of puerperal eclampsia, the uterus should be emptied. Whenever the urine was much diminished in quantity and was loaded with albumin, he thought it was almost criminal for us to remain idle when we had a means of putting the woman's life in safety. The best diuretic was plenty of water.

Dr. George J. Engelmann, of St. Louis, highly approved of prophylaxis. The urine should be examined frequently and appropriate treatment adopted for increasing its quantity if necessary. He had seen it contain so much albumin as almost to completely coagulate, yet the woman was carried to term with safety without inducing labor.

The President thought the question was one of renal insufficiency rather than of albuminuria. In many cases the urine contained no albumin until after the first convulsion, but it had contained a much smaller amount of solids than it should. In other words, the kidneys were not doing their work, and he knew no better plan than that recommended by Dr. Smith, of having the patient drink large quantities of water. This was the best prophylactic. The President also related some interesting experience with veratrum viride, which confirmed Dr. Reamy's views of its efficacy and safety in large doses.

The Ultimate Results of Trachelorrhaphy. — Dr. Willis E. Ford, of Utica, read a paper with this title, but explained that it would refer to only one of the ultimate results of trachelorrhaphy, namely, the effects of the operation upon nervous disorders. A great many nervous disorders, termed reflex, had been attributed to laceration of the cervix, and an operation had been done largely with the object of relieving such nervous symptoms. But the author held that the term reflex had been much abused, that about the only way in which a reflex was produced was through convulsive or spasmodic symptoms, and that where trachelorrhaphy had benefited the nervous symptoms it was only indirectly, by improving the general health. He had collated 136 cases of his own in which the condition of the patient was ascertained at least a year after trachelorrhaphy; 60 had not presented any unusual nervous symptoms, as the operation had been done for the usual condition of ill-health and pelvic pain caused by erosion. In all of these the ultimate result had been all that one could ask. In the other 76 there had been marked nervous disturbance, the condition of neurasthenia having brought the patient to the physician. The operation on the cervix had been followed by good union and by involution of the uterus. In 49 the nervous symptoms disappeared under proper treatment carried on for a year; in 27 there was no marked change produced by the operation. In 2 of the latter he finally removed the appendages for actual disease of the ovaries. Twenty-five, therefore, remained uncured after the lapse of a year. Thus it appeared that a well-marked nervous disorder which had become established would not be removed by trachelorrhaphy. The reason lay in the fact that hysteria, neurasthenia, and other nervous disorders of which these patients complained, were of deeper origin than peripheral irritation.

Dr. Clement Cleveland, of New York, thought failure to cure the patient's nervous disorders was often due to the operator directing his attention only to the torn angles, and failing to amputate the anterior and posterior lips as well.

Dr. G. J. Engelmann, of St. Louis, had seen pain in the back and disturbance of digestion disappear immediately after operating on the lacerated cervix. He would call such a nervous disorder reflex. He curetted the uterus, as there was apt to be also endometritis, and trimmed the cervix, doing so-called amputation.

Dr. A. F. Currier, of New York, said there were two classes of cases: 1, Those in which there was not much the matter with the cervix, yet the operation resulted in marked benefit through emotional influence; 2, those in which there was much tissue injury and change, resulting in excruciating sensations in various parts of the body and sometimes in exhaustion. Here the operation was essential, and gave excellent results regardless of the emotional influence.

Dr. A. Palmer Dudley, of New York, thought the ultimate results of trachelorrhaphy would depend upon one's selection of cases and the manner in which he performed his work. He formerly operated upon nearly all cases, but for some time he had abandoned the operation nearly altogether and directed his attention to the relief of the condition higher up. Nor did he perform amputation of the cervix, for this would destroy the proper balance of the upper and lower portions of the uterus and favor displacement. A free canal was essential to healthy condition of the parts, and many operators had caused salpingitis by narrowing the cervix in performing trachelorrhaphy.

Dr. S. C. Gordon, of Portland, Me., like Dr. Dudley, had seen extremely bad conditions of the appendages follow trachelorrhaphy in many cases, so that he now almost dreaded to see the operation done. The treatment should be: Dilate the cervix, curette the uterus, wash it out, and repeat this treatment until the canal became permanently patulous and involution had taken place. He had not performed trachelorrhaphy twice the past two years.

Dr. George T. Harrison, of New York, claimed that trachelorrhaphy was a most valuable operation, but it had often been wrongly performed, and in cases in which it was not indicated and for the relief of symptoms not due to cervical laceration.

Dr. Homan spoke favorably of trachelorrhaphy, even in minor tears, although it must be done in a proper manner. It prevented and relieved many disorders relating to digestion, etc., showing their direct or remote relation to the cervical lesion.

The discussion was closed by the author.

A Few Cases of True Pelvic Cellulitis: A Plea for More Thorough Pelvic Surgery.—Dr. Ely van de Warker, of Syracuse, read this paper. The time had now arrived when we knew what pelvic cellulitis was as well as what it was not. This form of inflammation might exist alone, or it might exist in conjunction with inflammation of the pelvic organs. It might be present high in the pelvis, or it might extend down and involve the cellular tissue between the vagina and rectum. Unless the latter existed in marked degree, it was not likely to be detected by vaginal examination

alone. Combined rectal and vaginal examination was necessary. It should be looked for as a possible complication of other forms of pelvic inflammation. The superiority of vaginal hysterectomy over abdominal operations was due largely to the more perfect and wide drainage secured for all the pelvic tissue.

The paper was discussed by Drs. Lapthorne Smith, J. W. Williams, M. D. Mann, A. P. Dudley, Etheridge, Wylie, and the author.

DR. WILLIAMS said it was seldom that one had opportunity to confirm the diagnosis of uncomplicated pelvic cellulitis post mortem, but he had seen two such cases in women who had died of symptoms of sepsis in childbirth. He was sure, however, that the vast majority of cases of pelvic suppuration had their origin in the tubes and ovaries.

The Prevention of Uterine Disease due to Childbearing.—DR. W. GILL WYLIE, of New York, read the paper. It advocated more extended resort to induction of labor by men who had become expert in their profession and knew how to observe strict antisepsis. Where the pelvis was not large, and where the cervix was hard, he did not hesitate to induce labor. The position of the child could be determined before labor, and if it was not what it should be, do external version. After trying the different methods of inducing labor, he had returned to the soft gum catheter, leaving it in over-night. The woman should be put in the best possible condition preparatory to childbirth.

The next point was the treatment of sepsis. If just after the first chill one would remove all large pieces in the uterus with the forceps, then curette, wash out, and introduce gauze, the sepsis might be stopped at once. But where the infection had gone further, this was not sufficient. Then to keep the gauze in twelve or twenty-four hours would serve only to increase the infection, and to force the septic material into the tubes and sinuses. The septic material might be limited to the interior of the uterus for two or four days. Where the sepsis continued, he washed the uterus every hour. After the tenth day following labor he kept the uterus up by boroglyceride cotton pledgets, left it in twenty-four hours, and repeated it twice a week.

DR. A. P. DUDLEY, of New York, thought we were giving dangerous advice in recommending a frequent resort to premature labor, for the men who saw the vast majority of cases of confinement did not understand antiseptic surgery as well as gynecologists. Since sepsis was most likely to occur through injuries, Dr. Dudley attempted in all cases to immediately repair injuries of the uterus and vagina, as well as of the perineum. It could be done in abortion as well as in cases of labor at term.

DR. H. P. C. WILSON, of Baltimore, said he had never used the curette after labor. He thought the fingers were much safer, and gave more exact information. Nor did he pack the uterus. It was better to leave the canal quite open and thus favor free discharge. Wash out the uterus four or five times a day if necessary. Give the patient good nourishment. Observe strict cleanliness.

DR. W. T. LUSK, of New York, believed that most cases of puerperal sepsis started in the interior of the uterus. Streptococci were present, and in order to prevent these from penetrating the mucous membrane, white corpuscles were thrown out and formed a barrier. This was Nature's way of doing the work, and if we would let her alone we would have not nine cases out of thirteen recover, but thirteen. If, on the other hand, we curetted, we would break down Nature's barrier, and although some cases would survive, yet we would lose some which ought to have gotten well.

DR. WILLIAMS, of Baltimore, expressed delight on hearing Dr. Lusk's remarks, for they were in harmony with his own observations and teaching. That was one class of cases. There was another in which there was necrotic material on the surface of the uterus, containing putrefactive organisms, in which the material needed to be removed mechanically and then washed out with boiled water, which was just as good as bichloride or carbolic acid, and was unattended by risk of poisoning the system.

DR. J. M. MCCOBLE, of Texas, invited guest, said he had found that injections of water or carbolized solution were not sufficient to bring away all the shreds of membrane and prevent recurrence of chills, and had consequently swabbed the uterus with borated cotton on a probe.

DR. WYLIE said he would not have proposed more frequent induction of premature labor fifteen or twenty years ago, when our knowledge of antisepsis was much more limited. Washing out the uterus every three or four hours gave the germs time to develop during the intervals. He had cured cases abandoned as hopeless after having been treated by this method, and had cured them by washing out every hour.

Deciduoma Malignum.—DR. J. WHITRIDGE WILLIAMS, of Baltimore, described a case of this rare affection, the first, he said, which had been fully reported in this country. Since Sänger's first case in 1888 the entire number of cases reported amounted to about thirty-four. According to the exact site of the disease on the placental structure or uterus, different names had been given, but in all instances it was malignant, and he therefore approved the general term deciduoma malignum. In his own case, seen with Dr. Harris, it could be classed as a carcinoma of the uterus, not a sarcoma, as it would have been had it been derived from the decidual cells as in Sänger's case. The two forms were closely allied; indeed, in some cases they seemed to be mixed, and gave the same clinical history. It occurred most often in young women, usually after full term or abortion, and at least half the cases had followed hydatidiform mole. They ran a rapidly malignant course. Death usually occurred within six months—in his case within three months; there was apt to be metastasis, and this had shown itself in his case on the vulva two weeks after labor. The only efficient treatment would be early recognition of the disease and prompt hysterectomy.

Some Points in Symphyseotomy.—DR. WILLIAM T. LUSK showed some diagrams in illustration of Pinard's method of performing symphyseotomy.

DR. KELLY read a letter from Dr. Robert A. Harris, of Philadelphia, stating that he could not be present to read his paper on "Symphyseotomy in Canada and the United States," but sending the paper and giving the reasons for preferring the spelling "symphyseotomy," instead of "symphysiotomy."

The Value of Gauze Drainage.—DR. H. C. COE, of New York, in a paper with this title, referred to the history of drainage in general, and the fact that the indications were now more strictly defined than formerly. He would consider only two applications of drainage, namely, of the uterus and of the pelvic cavity. Having been led to believe that the value of gauze as a drain had been exaggerated, he had addressed circulars to a number of prominent gynecologists, and had found that there was a wide difference of opinion among men whose results were equally good. Many had the utmost confidence in gauze, which they used almost exclusively, others preferred tubes, and a third class rejected drainage entirely. But it was curious that some of the latter always inserted gauze into the uterus after curettage, even in non-septic cases. It was not the writer's purpose to seek to depreciate the value of gauze in pelvic surgery, but rather to seek to decide the question what it accomplished: whether it acted as a true drain, or merely as a tampon. The action of gauze when introduced into the uterine cavity differed according to the size of the cavity and the condition of the muscular walls. If the latter were flabby, it stimulated the organ to contract. After curettage and irrigation of the non-septic uterus this was its principal function. There was cer-

tainly nothing to drain away except blood and serum, and so far from maintaining patency of the canal, it rather plugged the os and prevented fluid from escaping, so that drainage was more free after removal of the gauze.

As a hæmostatic in abortion and after removal of neoplasms, the gauze acted purely as a tampon, besides favoring uterine contraction. In septic cases, puerperal and non-puerperal, it was only serum which escaped through capillary drainage. Fragments of decidual membrane, etc., were expelled after removal of the gauze. It was frequently noticed that the hoped-for fall of temperature after curettage only occurred after the tampon was withdrawn.

Dr. Coe believed that thorough irrigation with peroxide of hydrogen after curettage was followed by as good results as when the tampon was used, or even better. With regard to drainage of the pelvic cavity with gauze, he believed it had grown in favor on account of the increasing popularity of the vaginal route. In vaginal hysterectomy, however, gauze was to be regarded as a tampon rather than as a drain. It was used in abdominal surgery for three purposes, namely: 1, To cover extensive raw surfaces, both to check obstinate oozing and to prevent intestinal adhesions; 2, to isolate septic foci from the general peritoneal cavity by favoring the formation of adhesions; 3, to drain away septic fluids.

That septic material was removed to any extent by capillary drainage was doubtful. Certainly, thick pus, fibrinous exudates, and sloughs were rather prevented from escaping by the presence of tampon. Drainage took place, the first twenty-four or thirty-six hours of thin serous fluid which might constitute a favorable nidus for germs. The most rational way of favoring such drainage was to maintain a free opening in the vaginal roof. Thorough drainage through the abdominal wound could not be expected.

In short, the reader believed with Sawyer, that the expression "gauze drain" was a misnomer, since we should speak rather of the "gauze tampon." The following practical deductions were made: 1. The introduction of gauze into the non-puerperal uterus as purely a drain is unnecessary, and even objectionable. 2. The gauze tampon, with a large, flabby septic uterus, after curettage promotes contraction of the organ, but often prevents the escape of septic matter, which is expelled only after removal of the gauze. 3. Tamponade of the pelvis with gauze is an invaluable means of arresting obstinate general oozing. 4. The gauze not only prevents the formation of intra-pelvic intestinal adhesions, but favors the development of plastic lymph around septic foci, thus shutting them off from the general cavity. 5. Capillary drainage with gauze, especially per vaginam, serves to remove a certain amount of serum which might form a nidus for germs, but little septic material beside.

Dr. William M. Polk, of New York, was elected President.

Scientists are now telling us that the dangerous microbe is lurking in the bank-note. Those in arrears for subscription can send the amount to Southampton Street, as we have the facilities to disinfect fivers, and are willing to take the risk.—*Tit-Bits.*

An Open-air Thinker.—At a Helmholtz memorial meeting in Berlin, in speaking of his genius, Dr. von Bezold said that the new ideas which did so much to advance science never came to him in his room, but always on his walks in the open air.

An International Congress for the Protection of Infancy will be held at Bordeaux next August. Beside the moral, legal, and physical sides of the subject, it will discuss the decline of parental authority and its delegation into other hands.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE GENERAL MEDICAL COUNCIL—PENAL COMMITTEE—REPORTS—MIDWIVES' BILL—OBSTETRICAL SOCIETY'S SO-CALLED DIPLOMA—THE OPIUM QUESTION—OBSTRUCTION OF PANCREATIC DUCT—GRAVES'S DISEASE—RELATION OF ULCERATIVE COLITIS TO SWINE-FEVER.

LONDON, May 31, 1895.

THE General Medical Council opened its session on Tuesday, and is still sitting.' The President (Sir R. Quain) gave an address as usual, in which he foreshadowed, so to say, the work of the session, and related what had been done by the Executive Committees since the last meeting. A prominent point in the address is the coming issue of a new pharmacopœia, and the steps taken to insure that it shall be worthy of its predecessors and of the Council.

No less than 21 charges of misconduct by registered practitioners have been lodged since the last meeting. They have been investigated by the Penal Committee, aided by the solicitor, and 15 have been set aside, the other 6 being summoned to appear and defend themselves. One of these being in Australia is summoned for the November session. The usual reports from public bodies and from committees were forthcoming, and their consideration occupied some time. It was also reported that the reversion to the freehold of the premises had been purchased. A proposal to vary the allowance of travelling expenses for members coming long distances was negatived. Another proposal to give more time to the work of the Council, viz., three hours in the morning and three in the afternoon, met with scanty support, although members from a distance would be glad to curtail the period of their absence from home. Other members, however, did not see any need to reduce the fees they draw for attendance, so nothing was done.

The midwives question, of course, came up in acute forms. A deputation of practitioners from the North of England was received, and urged upon the Council strong views against the bill now before Parliament, which it was feared would only tend to establish a new and inferior order of female practitioners and prove a fruitful source of injury to parturient women. This proposal to register midwives is still supported by a number of consulting accoucheurs, but is most obnoxious to general practitioners, who see in it injury to the profession as well as to the public.

The government has asked the Council's opinion on the bill, and as differences exist within that sacred precinct the debate is the most important of this—which may, perhaps, be known as the midwives' session.

The Obstetrical Society has rather caved in after all the bluster of its officers about the Council's threat to consider further issues of its objectionable so-called diploma as "infamous in a professional respect." The Society has agreed to modify its certificates in a manner which has been accepted by the Executive Committee of the Council. The new form, however, did not meet with the approval of all and some warm discussion ensued, but the Council was not willing to reject the decision of its committee. In some form or other this question must be more thoroughly threshed out. There ought to be no compromise. The Society has no more legal right to issue anything of the nature of a diploma than a club or a board of directors of any company. The Society has gone on for years in its unprofessional diploma-selling and it is high time to put it down. What is the use of compromise on such a question?

As I predicted the report of the Opium Commission

has not convinced some of the ardent opponents of the cultivation of that drug. The question has been before the House of Commons this week on a motion of Sir J. Pease, who made rather a bitter and unjustifiable attack, descending even to personalities, on the Commission. The minister had no difficulty in replying and rejecting the motion in dignified terms, and the House supported the ministry by a large majority.

The session of the Pathological Society closed on the 21st with the annual meeting, at which the officers were elected for the coming year. The report showed the Society to be in a prosperous condition. There was a serious paper, embodying the result of some careful analyses, by Dr. Vaughan Harley, on "Abortion and Metabolism in Obstruction to the Pancreatic Duct." In cases of obstruction of the pancreatic flow the fat absorption in man was diminished to 26.95 per cent., while in the case of dogs with partial removal of the pancreas four to thirty-seven per cent. of the fat given was absorbed. Still further, in the case of dogs in which the pancreas had been entirely removed no fats whatsoever were absorbed in the space of seven hours. As regards the proteids twenty-two to fifty-three per cent. of the proteids given were absorbed in dogs; while when the animal had considerably lost flesh only seventeen per cent. were absorbed. In the boy's case sixty per cent. of the proteids given were absorbed, but the body weight was unable to be kept constant. Dr. W. Edmunds brought forward some observations and experiments on the "Pathology of Graves's Disease," from which he concluded that accessory thyroids were extremely active functionally and were not merely embryonic. The symptoms of Graves's disease were due to some form of nerve disease rather than to a secretion from the diseased thyroid, because (*a*) thyroid feeding or thyroid extract would not cause exophthalmos, (*b*) but the eye symptoms could be produced by stimulation of the cervical sympathetic and were therefore certainly of nervous origin. The enlargement of the thyroid could be explained by stimulation of the sympathetic. All the symptoms of Graves's disease could be produced by an artificial lesion of the brain, and all the symptoms, including the enlarged thyroid, could be produced temporarily by mental emotion.

Mr. Leopold Hudson exhibited a series of recent specimens of the large intestine of pigs which were affected with swine-fever to illustrate the similarity of distribution between these lesions and the conditions in the human being which had been described as simple or general ulcerative colitis. The ulceration was confined to the cæcal aspect of the ileo-cæcal valve and to the large intestine, and every stage could be found, from the small simple ulcer to the large confluent areas of destroyed mucous membrane with adherent masses of necrotic tissue. In the human being the distribution of the ulceration was similar, though the naked-eye appearances were different owing to differences in gland structure in the human and pig's intestine. The similarity between the disease in swine and in mankind, both as to morbid anatomy and described clinical symptoms, certainly seemed to justify inquiries as to their possible intercommunicability.

Dr. Rolleston said that the specimens shown did not seem to resemble the cases of ulcerative colitis he had seen in the human subject, in that in the latter large areas of necrosis did not occur, and he thought that in the swine there was not such a tendency to perforation.

Dr. Herringham said that in some cases in human beings necrosis occurred.

Dr. Voelcher said that in a case of ulcerative colitis which he had examined there were large patches of acute necrosis of the mucous membrane.

Professor Cope, chief veterinary officer to the Board of Agriculture, said that in an early case all that would be found were small hyperæmic spots in the mucous membrane of the intestine; after that infiltration took place and a central area of necrosis formed. The ulcers might remain discrete and isolated, but very frequently they became confluent. Two common pathological varieties of the disease were met with—the ulcerative and the diphtheric. Two good instances of the latter variety were shown.

Mr. Hudson, in reply, remarked that experiments were about to be performed by inoculating and feeding pigs with ulcerative colitis from human beings, with a view to discover if intestinal lesions could be thereby produced. The colon of the pig contained a number of glands precisely like Brunner's glands in the human duodenum, and ulceration and infiltration of these produced the peculiar "button" ulcers of swine-fever.

Mr. Herbert Snow read a paper on "The Malignant Reversion of Mammary Cystic Fibroma."

MAX NORDAU: A REPLY TO MR. HOWELLS.

To the Editor of the Medical Record.

Sir: A short while since there appeared in *Harper's Weekly* a criticism by Mr. Howells of "Degeneration," the recently translated book of Max Nordau. Of all the *critiques* of the work that have come under my observation, Mr. Howells's seems to me to be the most unjust, the most unfair, and the most trivial. When one criticises a scientific work, characterizing it as nonsensical, purposeless, and the work of a crack-brained idiot—for this, in substance, is what the above-mentioned criticism amounts to—one should support his conclusions and assertions by arguments in which proofs warranting such conclusions and assertions are adduced.

I will ask any unprejudiced reader to carefully read the criticism of Mr. Howells and see if he can discover a single argument brought forward in support of the assertions and assumptions comprising the mass of the subject-matter making up the article under discussion. I failed to find *one*, though I read the communication with great care at least three times!

Mr. Howells is not a scientist, therefore is content with supporting his propositions by simple assertion. He likewise makes the usual illogical mistake of a superficial observer, that of characterizing as nonsensical that which he cannot comprehend and appreciate. Far be it from me to call in question the mental acumen of the successful (from a financial point of view) novelist, poet, and essayist. Mr. Howells's bank account will doubtless show that his financiering faculty is all right and that he is not a victim of degeneration, at least in this respect. Nor is it my purpose to write a criticism on his works, for, with the exception of "The Rise of Silas Lapham" and certain socialistic papers met with and cursorily scanned in the magazines, I am in complete ignorance of his writings.

I confess that I like originality, and, to me, Mr. Howell is not original. I read a novel for the intellectual amusement it affords—I study an essay on the social problems of the day for the knowledge it may instill. To me Mr. Howells's novels are not intellectually amusing—his social essays bring no additional knowledge, for they are twice-told tales. But this is another matter; that which I have directly in view is a study of Mr. Howells's attack on Max Nordau and his book. He first pays his respects to Professor Cesare Lombroso, Professor of Legal Medicine and Psychiatry, University of Turin, the foremost authority on forensic medicine in all Europe. Speaking of Nordau's advocacy of Lombroso's theories Mr. Howells says: "The richness of his find will not be surprising to anyone who knows the Lombrosian theories and methods, *and has witnessed the ease with which the good Professor discovers whatever he looks for.*"

This of a man who is known and respected throughout the entire scientific world and whose honesty has

never before been questioned! Mr. Howells should have included, Charcot, Binet, Féré, Ségelâs, Séguin, Dana, Ellis, and dozens of other noted men, all smitten with Lombrosian madness, in his pitiful little witticism. But why call it Lombrosian? Surely an omniscient critic like Mr. Howells must be aware of the fact that the germs of the Lombrosian theories were discovered and enunciated over seventy years ago?

In the "Delinquent Man" (I use Mr. Howells's translation of *L'Uomo Delinquente*) Lombroso carefully gives the credit to those to whom it is due. He was not ashamed to borrow the ideas of other men, nor was he ashamed to acknowledge the sources from whence he derived his inspiration. The critic accuses Nordau of borrowing. I grant that he is correct, and so will Dr. Nordau, for he begins his prefatory letter thus:

"Professor Ceasare Lombroso, Turin.

"Dear and Honoured Master: *I dedicate this book to you in open and joyful recognition of the fact that without your labours it could never have been written.*"

In my opinion there could not be a more honest confession. Virgil borrowed the incidents, I might even say the plot of the "Æneid;" Shakespeare borrowed the plots of "King John," of "Romeo and Juliet," of "Timon of Athens," and of several others of his plays; Robert Fulton borrowed the ideas and the plans of James Rumsey, and yet the genius of these men cannot be questioned nor their fame lessened. Let the altrurian glance over his own altruistic (socialistic) works and see if he has any right to cry, "I am more holy than thou!" I do not mean to imply by the context that I consider Mr. Howells a man of genius. He has unmistakable talent, but I fail to discover any evidence of genius.

Richard Grant White says somewhere that "Genius is mainly an affair of energy;" substitute the word talent for genius and I will heartily concur and agree with Mr. White. No one can deny that Mr. Howells has a superabundant amount of energy, for does he not himself inform us that he has written some thirty or forty books? Ye gods and little fishes! a whole library, and, judging from appearances, he is yet far from death. But let us return to our mutton.

Speaking directly of Dr. Nordau he accuses him of insincerity and declares that "he is only a clever quack advertising himself." This of one of the most noted literary critics, psychologists, and neurologists in all Europe!

This seems to me to be rather unfair criticism, coming as it does from a man who puts a premium on his autograph, for does not Mr. Howells declare, through Mr. Bok, that he will not send or give his autograph, "with a sentiment," to any one, unless the applicant furnishes evidences that he has read all of his (Mr. Howells's) thirty or forty books? Continuing, if I am not mistaken, he declares that a "bookseller's certificate to the effect that the books have been purchased will be considered the best evidence." Long head! Level head! The financial faculty shows no signs of degeneration.

I wonder what the dignified and scholarly German, whom the critic attacks so bitterly, would say, were such a proposal made to him? Mr. Howells sarcastically observes: "Not such monsters alone as Tolstoi, Ibsen, Zola, Ruskin, Wagner, Verlaine, Maeterlinck, . . . are captured as degenerates and shown as proofs of Dr. Nordau's second-hand hypotheses, but every realist, symbolist, moralist, mystic is equally useful to him." The implication in the above sentence is that none of these men show or showed signs of degeneration. Let us take the last name in the list, Maeterlinck, and see if this is true; for I can, fortunately, verify the truthfulness and exactness of Dr. Nordau's excerpts from the writings of this author, as well as the literalness and faithfulness of the Appleton translation. Says Dr. Nordau anent this unfortunate, p. 227: "As in Rollinat we have learned to know the poet of anxiomania" (frenzied anguish) "so shall we find in another author, whose name has become widely known in the last two years, in the Belgian, Maurice Maeterlinck, an example of an utterly childish idiotically-incoherent mysticism. He reveals the state of his mind most characteristically in his poems, of which I will give a few examples. Here is the first of the collection:

"'Serres Chaudes.

"'O hot-house in the middle of the woods, and your doors ever closed! And all that is under your dome! And under my soul in your analogies!

"'The thoughts of a princess who is hungry; the tedium of a sailor in the desert; a brass band under the windows of incurables.

"'Go into the warm, moist corners! One might say 'tis a woman fainting on harvest-day. In the court-yard of the infirmary are postilions; in the distance an elk-hunter passes by, who now tends the sick.

"'Examine in the moonlight! (Oh, nothing there is in the place.) One might say a mad woman before judges, a battleship in full sail on a canal, night birds on lilies, a death-knell toward noon (down there under the bells), a halting-place for the sick in the meadows, a smell of ether on a sunny day.

"'My God! my God! when shall we have rain and snow and wind in the hot-house?'"

Mr. Howells may consider this good, sound, sensible poetry, and its author a sane man. I do not. It seems to me I have heard its like time and again in the wards of lunatic asylums. In fact, I have several dozen poems similar in character and written by lunatics in my possession at the present moment. Further along, after giving numerous other poems, Dr. Nordau says: "Nothing would be easier than to compose others on these models, overtrumping even those of Maeterlinck —*e.g.*:

"'Oh flowers! And we groan so heavily under the very old taxes! An hour-glass at which the dog barks in May; and the strange envelope of the Negro, who has not slept.

"'A grandmother, who would eat oranges and could not write! Sailors in a ball-room, but blue! blue! Oh, two soldiers in the cowhouse, and the razor is notched!' etc.

"But why parody Maeterlinck? His style bears no parody, for it has already reached the extreme limits of idiocy."

The critic discourses tenderly and touchingly of Christianity and morals, yet castigates Nordau for daring to call attention to the insane sensuality of Paul Verlaine, who suffered a term of imprisonment for a crime against nature. I wonder that Mr. Howells did not put Oscar Wilde in his list of slandered immortals, since he is among the degenerates listed in Nordau's book. But why discuss Mr. Howells's paper any further? I think that I have shown that his *critique* is unjust, unfair, and exceedingly trivial. He, like a great number of his kind, has attempted to discuss a subject about which he knows little or nothing, consequently has been led into grievous error. Now one word about Max Nordau and his book. I cannot say that I agree with him in all of his propositions; for I believe that enthusiasm has carried him a little farther than he intended to go, and has led him into error. Yet I unhesitatingly say that I consider his book one of the most valuable contributions to the science of psychiatry that this century has produced.

James Weir, Jr., M.D.

Wayeland.

MORNING DIARRHŒA.

To the Editor of the Medical Record.

Sir: To an *ensemble* of symptoms, of sufficient importance to merit independent notice, Dr. Delafield applies the term "morning diarrhœa." It will be unfortunate if any shall look upon the name as conveying the idea of a distinct malady, nor do we conceive this to be the idea of the accomplished physician who suggests the title.

This condition we recognize as a phase of intestinal dyspepsia, and, as a rule, sequel to catarrhal and dyspeptic disease of the upper digestive tract. It is most frequently met with in those who have suffered from deranged hepatic functions of malarial or other causation, and hence is more common in the South than in other localities. A large number of such cases have come under the writer's notice, which induces him to add this note to Dr. Delafield's interesting article.

In most cases the call to stool comes soon after waking, and is preceded by the passage of flatus, and often by a burning sensation in the rectum, indicative of the descent of acid fæces. The call may be so slight as to pass unheeded, or so imperative as to demand immediate attention; the motion consists of liquid and scybalous masses, malodorous, and, as a rule, not copious, the lower bowel being seldom effectually emptied.

The evacuation is followed by a sensation of faintness and discomfort of a burning character over the region of the lower bowels, which, as Dr. Delafield states, is often so severe as to incapacitate the sufferer for all the forenoon. Patients dread this after discomfort so much that many, by persistent effort, restrain the bowels, a pernicious habit, which often results in the condition of auto-infection described by Sir Andrew Clarke.

A second motion follows after breakfast, and possibly a third, the bowels remaining quiet in the afternoon and evening, unless a more acute condition has supervened.

Those who have suffered for any length of time present decided evidence of malnutrition and defective hæmatosis; the complexion inclines to sallow, the tongue is lightly furred or gashed, the appetite is capricious and uncertain. The nervous system is usually involved, sleep is disturbed and insufficient, memory is impaired, and the power of concentration or continued mental effort is diminished. These remarks apply to chronic cases, between which and the acute form there is much variety as to phase and extent. Often a slight but acute dyspepsia has preceded, and a tolerance of the symptoms becomes established without cure, the condition resulting in gastric dilatation with defective motility; the food passes the pylorus non-peptonized and uninfluenced by pancreatic digestion, in a septic and fermentescible state, to induce the symptoms predicted in the lower bowel, where of course eventually congestion and perverted secretion result. These conditions, superadded to deficient peristalsis and usually a restricted dietary, occasion ineffectual efforts at evacuation.

There are doubtless many cases, especially in city practice, of a more distinctly nervous form, such as are caused by undue fatigue, mental or physical, and in females with neurasthenia of menstrual origin. The writer is unaware of having encountered a case of this trouble in one from the country, although we know that dyspepsia abounds there, which is suggestive of the nervous element in the disease incident to urban occupation and environment.

As to prognosis, if change of environment and habits be undertaken sufficiently early the disease can be cured. Chronic cases are benefited, but seldom if ever eradicated. In almost all cases an ocean voyage is attended with marked benefits. An instance is recalled of an officer in the navy so seriously reduced by symptoms of this character that it was necessary to invalid him to the United States. A day or two out, great improvement rapidly began, and the patient was so fully restored before the end of his voyage as to feel much embarrassed on reporting at the hospital to which he had been ordered. Yet, while this rapid improvement occurs, as Dr. Delafield remarks, a return to the old environment brings a return of the disease. Likewise a change to the country is of the greatest benefit. In so far as diet is concerned anything beyond ordinary care should not be enforced; yet, as in most digestive troubles, vegetables are more difficult of digestion and more liable to fermentative change.

As to medicinal treatment, tonics are but of little service, and the best agents are those which arrest fermentation and produce antisepsis. Of these beta-napthol is decidedly the most valuable, and will arrest diarrhœa more speedily and permanently than opiates, which are rather to be avoided. Many cases are benefited by a draught of aperient saline water before breakfast, which insures flushing and thorough evacuation of the bowels. In advanced cases the depletion caused by such treatment must be borne in mind, and for these, as well as others, the best results are obtained from a prolonged residence at the springs, such as Vichy and Kissingen in Europe, the Allegheny Springs (Montgomery Co.) in Virginia, and Saratoga, N. Y.

John C. Wise, M.D.,
Surgeon, U. S. Navy.

Navy Yard, Washington, D. C., May 21, 1895.

THE CATHOLIC CHURCH AND OBSTETRICAL SCIENCE.

To the Editor of the Medical Record.

Sir: An article entitled "The Catholic Church and Obstetrical Science," in the Medical Record of February 2, 1895, page 147, has lately been shown to me, and I consider it my duty for the sake of Christian ethics and for the information of many members of the noble profession your periodical so ably represents to protest against the utterly loose and misleading statements it contains. The article is short and claims to be a summary of the views expressed by an anonymous writer in the "*Münchener Medicinische Wochenschrift*, with regard to the lawfulness of craniotomy. The objectionable statements, implied or explicit may be reduced to three: *a*, That Rome has never condemned craniotomy; *b*, that Catholic theologians, and in particular the Jesuit Father Lehmkuhl, are in favor of it; and *c*, that this operation in itself is not wrong, for it is demanded both by necessity and science.

To show how untenable these views are I might refer the reader to a letter published over my name in the Medical Record, November 28, 1885, page 606. But a few additional remarks, I am sure, will not prove unacceptable to the medical profession.

With regard to the attitude of Rome the "anonymous writer," as reported and summarized by the reviewer in the Medical Record, has the following: "The question was submitted whether craniotomy or any operation directly tending to destroy the life of the fœtus in utero was ever justifiable. The Sacred Congregation replied that "after mature deliberation it would advise the questioner to follow the most approved authorities, whether ancient or modern, and act prudently." Were this the only document promulgated by the Church in the matter of craniotomy, the inference made by the "anonymous writer" would not be entirely without reason. But this is another case of where not to tell the whole truth is just as bad as not to tell the truth at all. We have, as a matter of fact, four answers from Rome on this question. The first was given November 28, 1872, by the Sacred Penitentiary, during the first stage of the discussion. The

question, be it remarked, had been mooted only a little before that time by Dr. Avanzini, editor of the "Acta S. Sedis." This is the answer quoted by the "anonymous writer." The second answer was given December 10, 1883, to Mons. Dabert, Bishop of Périgneux, in France. In it Cardinal Bilio states that the Sacred Congregation of Inquisition is still examining the question, and has not yet reached a final decision. Here are his words: "The third doubt (proposed by you, and concerning craniotomy) being the subject of many inquiries made by other Bishops, is still under consideration by this Sacred Tribunal." The third answer is dated May 31, 1884, and was sent by Cardinal Monaco La Valletta to Cardinal Caverst, Archbishop of Lyons. The whole document runs thus: "The cardinals of this congregation have carefully weighed the doubt proposed by your Eminence, as to whether it would be safe to teach in Catholic schools that the surgical operation called craniotomy is lawful, when on the one hand mother and child will die, if recourse is not had to the operation, and on the other, if such recourse is had, the mother will be saved at the expense of the child's life. After long and mature consideration, after close scrutiny of the views advocated in this matter by Catholic men of science and submitted by your Eminence to this congregation, we think it incumbent on us to answer that 'It cannot be safely taught.'" Rome spoke for the fourth time on August 19, 1889, reiterating the same decision. The entire text of this document can be found in the "American Ecclesiastical Review," vol. ix., page 352. We content ourselves with the following short extract: "We, the cardinals in committee assembled, have come to this conclusion that in accordance with the declaration made on May 28, 1884, it cannot be safely taught in Catholic schools that the surgical operation known as craniotomy is lawful, and the same is to be said of whatever surgical operation aims directly at the killing of the fœtus or of the pregnant mother. I acquaint your Lordship with this decision that you make it known to the professors of the medical faculty of the Catholic University of Lille."

The very tenor of these answers, the way they have been accepted and understood by theologians and professors in all the Catholic Colleges and Universities, the injunction that they should be made known to the members of the medical faculty, and the admission therein contained that craniotomy is one of those surgical operations which are and must be called *directe occisivae*, truly murderous, preclude every other abstract and otherwise possible interpretation of the *Tuto doceri non posse*, except the practical one, *i.e.*, that craniotomy is unlawful, morally unlawful, always and intrinsically unlawful. In addition to this I may remark here, what I stated elsewhere more fully, that an opinion which cannot safely be taught will never be held as probable by Catholic theologians. Hence it follows that, as a solid probability is certainly required for an act which is *prima facie* murderous, no Catholic will ever be allowed to connive at, and still less to perform, the surgical operation of craniotomy. Rome indeed could not have spoken more clearly, and when we reflect that her utterances have been public property for the past ten years, one cannot but be surprised that the "anonymous writer," dignified by the editor of the *Münchener Medicinische Wochenschrift* with the title of "inspired," failed to give them a place in his article. Inspiration is a term that admits of many meanings, but we had always thought it too sacred a thing to be confounded with ignorance. That the "anonymous writer" derived his inspiration, in this instance, from ignorance is a conviction that must force itself on any honest reader; for we cannot suppose for a moment that malice could have ever moved his pen.

The varying stages of controversy through which this question has passed, and the prudent circumspection of Rome in the premises are sufficient explanation of the stand taken by theologians at successive intervals. Father Lehmkuhl and others during the first period of discussion admitted doubts and ventured tentative solutions, but afterward fell into line, and now all to a man brand as morally unlawful craniotomy and every such operation. Here again the "anonymous writer" has not told the whole truth by not quoting Lehmkuhl in his last editions, where, taking the inspiration from Rome, as every true theologian does, he clearly condemns craniotomy.

What should we think of a writer who wishing to prove, in our days, that the "income-tax" is perfectly constitutional quotes an author who gave his views while this question was being discussed before the highest tribunal in our country? Would this be fair, especially if the decision given by the court is not at the same time made known? And what if the author whose views have been given as an argument had modified them and made them agree with the decision of the Supreme Court? This, and not less than this, is what the "anonymous writer" has done in regard to Lehmkuhl.

If both Rome and theologians condemn craniotomy, it is useless for Catholics to inquire whether any intrinsic reason may be found in its favor. Moreover, the question has been too extensively treated during these recent years to need now any additional explanation or comment. Indeed it must be asserted that apart from a certain sentimentalism, nothing has ever been brought forward to justify craniotomy from an ethical point of view. Craniotomy must be called to-day, as it was called many years ago by Archbishop Kenrick, of Baltimore, *immane facinus*, a monstrous crime. And to speak of "science" and "necessity" that we may connive at such crime is, to say the least, ridiculous. Science is advanced only by truth, and necessity, however great, cannot be admitted as an excuse for evil-doing. Is it not to be wondered at how inconsistent some of our friends are, who while they are perpetually slandering the Jesuits for that famous "The end justifies the means," wish to kill the child in order to save the mother? The Jesuits will never allow craniotomy for that very reason, because the end does not justify the means.

A. SABETTI, S. J.,
Professor of Moral Theology.
WOODSTOCK COLLEGE, MD.

NOT A SAINTED BENJAMIN.

TO THE EDITOR OF THE MEDICAL RECORD.

DEAR SIR: The editorial reference in your issue of the 8th instant, to Mr. Ford's article on Benjamin Rush, would seem to call for some rejoinder from me as a eulogist of Dr. Rush; but without essaying the *rôle* of apologist, I beg to state that I have no doubt whatever that a man of his earnest convictions, enthusiasm, and energy did say and do a great many things that had better been left unsaid and undone, but in this he only shared the common weakness of mortal flesh, and although I know that *Tu quoque* is no argument, nevertheless I believe I have heard that the justly revered Father of his Country was himself a man with human failings like other great men from the times of the venerable Noah, the royal David, and the superlatively wise Solomon down to our own daily sinning selves. I am not proposing to erect a statue to any sainted Benjamin, but to a very great physician, who exalted medicine and dignified his profession, and to an undoubted patriot, who risked life and fortune for his country, which he left the better for his having lived.

ALBERT L. GIHON, M.D.,
Chairman Rush Monument Committee.
WASHINGTON, D.C., June 9, 1895.

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GASTRO-INTESTINAL DISEASES OF CHILDREN, DUE TO MALASSIMILATION.[1]

BY N. J. PHENIX, M.D.,

ALVIN, TEX.

THIS subject, apparently "timeworn and threadbare," is fraught with interest to the general practitioner, and notwithstanding much has been said and written upon it, many physicians evince in their treatment a limited knowledge of the etiology of the gastro-intestinal diseases so common among children during the hot months. Even in the majority of text-books these diseases are discussed in the routine manner of "years ago." In reading our journals, however, it is gratifying to note the advancement in recent years, both in etiology and treatment, and the object of this paper is not so much for the presentation of new ideas or "new discoveries," as to formulate a correct review of the causes of "summer complaint," and present a rational treatment based upon a knowledge of the physiological and pathological conditions of the alimentary canal.

The two principal factors in the causation of infantile diarrhœas are atmospheric heat and improper feeding. With the advent of warm weather these diseases begin to increase in frequency and severity, reaching their maximum in July and August. In the rural districts gastro-intestinal disturbances are not so common nor so severe as in the squalid tenements of crowded cities. This fact leads to an investigation of influences besides atmospheric temperature. When filth, bad ventilation, and other unsanitary conditions abound with many children crowded together, we often find a veritable hot-bed of cholera infantum.

A temperature above 60° F., associated with unsanitary surroundings, favors the rapid multiplication of micro-organisms, which work destructive changes in food substances, and when taken into the alimentary canal develop those pathological fermentations and putrefactions which poison the blood and act as direct irritants to the mucous membrane and nerves, producing a variable train of symptoms, from malnutrition, diarrhœa (and sometimes constipation), to the severe forms of cholera infantum, characterized by fœtid discharges, vomiting, fever, collapse, convulsions, coma, or other nervous symptoms.

However much the various and numerous microbes whose development is favored by high temperature and bad hygiene may be considered the direct source of poison, it cannot be doubted that improper food furnishes pabulum whereby the pathogenetic organisms are more rapidly multiplied and distributed.

The direct action of the different kinds of food in the production of gastro-intestinal diseases probably has not received a due amount of attention from the majority of physicians.

The first time the child cries after it has been dressed, some ignorant old woman or nurse thrusts into its mouth a "sugar-tit," a "little cracker-water," sweetened catnip-tea, or some other starchy or saccharine substance for the digestion of which nature has made no preparation. The suckling babe, subsisting upon breast-milk alone, does not require the action of ptyaline. Hence the diastatic ferment is not developed in the submaxillary gland and pancreas until the infant is more than two and one-half months old. At birth the parotid gland alone contains ptyaline, and it is not found there in sufficient quantity for the conversion of starch into dextrine and maltose.[1] The amylopsin of the pancreas is not secreted in sufficient amount to admit of the free feeding of starchy food until the child has reached the age of about ten or twelve months.

Ignorant and silly mothers often feed their toothless babes *solid* food, both animal and vegetable, and cultivate an artificial craving for it, despite the fact that "nature declares in unmistakable terms that food requiring mastication is not appropriate to the digestive organs of a child that has no teeth."

Bottle-feeding is a very fertile source of disease in young children, because it furnishes ample opportunity for bacterial contamination. The child nurses the same bottle from day to day, probably with only half cleansing, and the same rubber nipple, which sours and swarms with bacteria. This food, of course, soon ferments, and produces colic and green, acrid discharges, which excoriate, and the little sufferer, crying from the pain, has the sour nipple again thrust into its mouth. The stupefying carbonic acid produced by the fermentation may quiet it for a time, but the new supply soon adds to the already burning, seething mass, which passes through the alimentary canal, producing more colic and gastro-intestinal catarrh internally, and more excoriation externally.

Auerbach's ganglionic plexus, consisting of nerve-fibres and nerve-cells lying between the longitudinal and circular muscular coats from the œsophagus to the rectum, serves as an automatic motor centre, which supplies the intestines with normal peristaltic movements, so long as the circulation is kept at proper equilibrium and the blood contains the right proportion of O and CO_2.[2] This normal peristalsis is promoted by the healthy digestion of wholesome diet, but the presence of any irritating matter in the bowels, such as undigested, fermenting, and perhaps putrefying food, overstimulates these motor centres, produces hyperæmia, exaggerated peristalsis, catarrh, diarrhœa, vomiting, colic, and even active inflammation.

The intensity of the catarrh varies with the amount of bacterial and chemical poison operating. Whether the result is only a slight diarrhœa, or an intense inflammation, the cause operates in a similar manner.

In the form denominated cholera infantum we have unimpeachable evidence of the toxic effect of the micro-organisms previously mentioned. The vomiting, purging, griping, and cramping indicate extreme irritation of the nerves of the stomach and bowels. The hebetude, semi-coma, convulsions, and other nervous symptoms are indicative of irritation of the nerve-centres from the effects of blood poison or reflex action on the brain through the sympathetic nervous system.

In the treatment of gastro-intestinal diseases of young children our success will be in proportion to our strenuous regulation of hygiene and diet. The premises should be cool if possible, well ventilated, and scrupulously clean. The sick child's soiled napkins

[1] Read before the Houston District Medical Association, February 11, 1895.

[1] See Landois's Physiology, p. 262. [2] See Ibid., p. 281.

and other clothing should not be allowed to remain in the house to putrefy and fill the atmosphere with poisonous germs. The excreta should be disinfected and the soiled clothing thoroughly boiled or destroyed by fire.

Frequent tepid baths will not only remove poisonous excretions from the patient's body, but serve as an excellent nerve and muscular tonic. The child's milk and other food should be carefully guarded against all possible sources of bacterial contamination. In fact, the proper nourishment of the child should be the chief concern of mother, physician, and nurse, from the time the umbilicus is tied until the period of dentition is past and perfect digestion and vigorous growth are established.

The mother's milk is nature's own food, prepared especially for the infant. It contains all the necessary nutritive principles, blended in such proportions as to promote health and vigorous growth. No animal's milk or prepared "infant's food" can take the place of the normal secretion of the breast of a healthy mother. The mother who weans her young babe to raise it upon the bottle, in order that she may enjoy the pleasure of high (?) society, commits a crime verging upon infanticide. Strong babes may thrive upon the bottle, but the weakly ones who have this severe vital test to undergo give employment to physicians, and contribute largely to the population of cemeteries. But, unfortunately the mother's health may be impaired and her milk unwholesome. If she is poorly nourished, and her alimentary canal contains an excess of fermenting, undigested hydrocarbons, and her whole dietary is deficient in the nutritive principles necessary to sustain her own body, how can she supply the proper nourishment for the child?

In order that her milk may be abundant and nutritious her general health should be good, her digestion normal, and her diet rich in tissue-building material, easily assimilated. Some women give an abundance of milk, but it is poor in quality. If the child cannot thrive upon its mother's milk, it should be weaned, or if circumstances will permit a wet-nurse may be employed, provided she is perfectly free from communicable diseases. A woman who nurses a child should have regular sleep, regular meals, and be perfectly exempt from worry and not overworked.

Sometimes the mother's milk is unfit for the infant on account of a systemic infection, from a lacerated womb with a purulent discharge, or some other similar cause. If such a condition be recognized, treat the woman.

When cow's milk is substituted for milk from the human breast, it should be given perfectly fresh and clean, from young, healthy cows that have been liberally fed and kept in clean, dry, warm, well-ventilated stables. The cow's udder and the milker's hands should be thoroughly washed and the vessels in which the milk is received should be rinsed in clean boiling water. No particles of dust, dirt, or foul air should come in contact with the milk. It should be carefully conveyed, without churning or shaking, into sterilized glass jars, and placed away where it will cool rapidly.

Unfortunately, few families obtain pure milk. Because of the myriads of bacteria that are swarming in low-grade milk, it becomes necessary to sterilize it. For home sterilizing the milk may be put into small, clean bottles. After the bottles are filled stop their mouths with cotton and place them in steamers or hot water (at 180° F. or more), and let them remain thirty or forty minutes.

Sterilized milk is less digestible than pure milk in its fresh, natural state.

When young infants are fed on cow's milk it should be diluted in the proportion of about one part of milk to two of water, gradually increasing the proportion of milk as the child grows older. After the milk has been diluted a little sweet cream and sugar of milk should be added. Care should be taken not to add too much sugar, one to two per cent. being quite a sufficient quantity. Condensed milk that is not over-sweetened is a quite satisfactory substitute for fresh milk. When properly prepared it is evaporated to one-fifth its original volume. The greater part of condensed milk on the market contains entirely too much sugar.

Starchy foods should not be fed to children under four or six months old. A little barley gruel may be admissible to dilute the milk if the child has diarrhœa, or a little oatmeal gruel if the child is constipated.

Some of the proprietary "infants' foods" are valuable preparations because their constituents nearly approach the composition of human milk. Others are worthless on account of the saccharine and starchy matter they contain.

If the child does not nurse the breast it should be supplied with about six bottles and as many rubber nipples. After nursing the bottle should be washed with boiling water, the nipple thoroughly cleansed with boric-acid solution, and both placed in the sun and allowed to remain until all the other bottles and nipples have been used in turn.

The proper regulation of the amount of food to be administered and the intervals between feeding are matters of great importance, too often overlooked. Dr. L. Emmett Holt[1] has demonstrated that the average capacity of a child's stomach at birth is about 1 ounce; at 2 weeks old, 1½ ounces; at 1 month, 2 ounces; at 3 months, 4½ ounces; at 7 months, 7 ounces; at 14 months, 9 ounces. Reference to this table will greatly aid in determining the proper amount of food to administer. If the stomach is repeatedly distended it becomes dilated and its capacity is increased beyond what is normal, while its digestive powers are proportionately diminished. If the food taken is not assimilated the body's demand for nourishment is not supplied, the sense of hunger is not appeased, the child cries for more and is not satisfied until the soporific effect of the carbonic acid produced by the fermenting food benumbs its sensibilities. Hence, overfeeding may produce malnutrition, and the child literally starves while its stomach is loaded with wholesome diet.

During the first day after birth the babe should nurse only two or three times. After that it should receive milk about every three hours during the day, and only once during the night. After it is six months old once every four hours is often enough for it to take nourishment.

In ordinary cases of infantile diarrhœa due to indigestion and bad hygiene a proper observance of the rules already lain down will usually be sufficient to effect a cure. Some cases, however, may require the aid of medicines. Use such remedies as promote digestion and destroy fermentations and putrefactions, and the diarrhœa will take care of itself. For the first purpose pepsin combined with muriatic acid stands, in my opinion, pre-eminently at the head of the list. Many physicians fail to get any benefit from pepsin because their doses are too small; many more fail because they ignore the physiological maxim that "Pepsin is inert except in the presence of an acid."[2]

Nux vomica and small doses of arsenic are valuable adjuncts, since they promote the secretion of gastric juice and serve as excellent nerve and muscular tonics. The following is a reliable mixture, which I have often used, and I can conscienciously say it has never yet disappointed me:

℞. Pepsin ..... ʒ ij.
Bismuth. sub. nit ..... ʒ ij.–iv.
Liq. potassii arsenit ..... ♏xv.–xx.
Tr. nucis vom. ..... ♏xxx.–xl.
Acidi muriatici dil ..... ♏xxx.–xl.
Aquæ cinnamomi ..... q.s. ad ℥ iv.

M. Sig.: Teaspoonful three or four times a day after feeding, for child six to twelve months old.

[1] See Annual of Universal Medical Sciences, 1891.
[2] See Landois's Physiology, p. 295.

The bismuth may be increased or diminished, according to the amount of diarrhœa or intestinal irritation present.

For fermentations and putrefactions I have found nothing better than sulphite of soda, two to four grains three or four times daily, midway between meals. It is especially valuable where there is green or excoriating diarrhœa.

Small doses of calomel ($\frac{1}{12}$ to $\frac{1}{4}$ gr.) repeated at intervals promote secretions, and serve as an intestinal antiseptic. A dose of castor-oil or syrup of rhubarb may be given when necessary to unload the bowels of irritating or poisonous matter.

The amount of nourishment should be diminished so as to come within the limits of the child's digestive capacity, and an abundance of pure sterilized water supplied.

I have often seen pure blackberry brandy control the diarrhœa, while at the same time it served as nourishment and stimulant.

If the above measures prove ineffective, and the diarrhœa is severe and persistent, a complete change in diet should be made.

There are at least two forms of fermentations: 1, acid, recognized by green, sour-smelling discharges, with flatus, colic, and excoriation; and 2, the putrefactive form, recognized by dark or brown fœtid discharges, with more or less vomiting and constitutional symptoms.

In the acid form avoid carbohydrates and feed on proteids. Germs of putrefaction thrive on an albuminous food. Withdraw the albuminoids, and starve out the germs. Milk containing both proteids and carbohydrates should not be given in any form of persistent intestinal fermentation. Meat broths and sweet cream may be safely given in either form.

In cholera infantum, during the first twenty-four to forty-eight hours, no food should be allowed. Give the child all the hot water it will take, preferably from a nursing-bottle. Copious enemas of hot water containing sulphite of soda or some other safe antiseptic should be slowly administered. In severe cases, especially when there is much vomiting, stomach washing by means of a Nelaton's catheter will be found valuable. At the beginning of treatment an evacuant in the form of calomel, rhubarb, or castor-oil is almost universally employed. Opiates should never be used until after thorough evacuation and cleansing of the bowels, and then only with extreme caution. If there is much fever, tepid sponge-baths will reduce the temperature and relieve the thirst.

If malaria be present, anointments of quinine should be freely used.

Every source of irritation should be removed. The physician should never fail to examine the gums, and when there is much tenderness and swelling I never hesitate to relieve the tension of the dental sac by scarification.

When the child nurses the breast the nipple should be carefully cleansed with boracic-acid solution. Enough germs may be retained on the nipple to start a new colony of bacteria in the child's stomach with each nursing.

After twenty-four to forty-eight hours' fasting, with thorough cleansing of the alimentary canal by means of stomach washing, irrigations of the colon, and evacuants, I cautiously begin the administration of small quantities of food, following with the bismuth, pepsin, and muriatic acid. Between the intervals of feeding some intestinal antiseptic should be given. Among the most popular should be mentioned bichloride of mercury (gr. $\frac{1}{100}$ every one or two hours).

Luff considers the biniodide of mercury a safer and more powerful antiseptic than the bichloride. He considers the milk ptomaine tyrotoxicon one of the chief factors in the causation of diarrhœa, and believes the biniodide of mercury renders the ptomaine insoluble and inert. Bichloride of mercury is powerless to precipitate the milk ptomaine. He prescribes the biniodide in the following form:

℞. Liq. hydrarg. perchlor..... ℥xij.
Pot. iodidi..... gr. ¼
Chloral hydratis..... gr. j.
Aquæ.....ad f ʒ j.

This forms the teaspoonful which he gives every four hours to a child six months or under, every three hours to a child six to twelve months, and two teaspoonfuls to a child more than one year.

Salol and iodoform each have their ardent supporters. From recent reports I am inclined to believe that sulphocarbolate of zinc is a remedy of unquestionable value. It is non-irritating, sedative, antiseptic, and astringent, and may be given in doses of one-sixth grain to three or four grains, combined when necessary with bismuth and pepsin. My favorite antiseptic, as before stated, is sulphite of soda. To relieve the obstinate vomiting, I combine creosote or carbolic acid one-eighth drop to one-half drop with minute doses of cocaine in lime-water every twenty to sixty minutes. If physicians would devote more attention to the physiology of infantile digestion and direct their efforts toward the elimination and destruction of micro-organisms, instead of confining them with all their poisonous products within the child's digestive apparatus by means of opiates and astringents, it would not so often become necessary for an "all-wise Providence" to transport the little sufferer to a higher sphere,

Where aches and pains are never felt,
And microbes are no more.

A FATAL CASE OF EXCISION OF THE GASSERIAN GANGLION.

By ARPAD G. GERSTER, M.D.,

NEW YORK.

As the estimation of the true value of any new procedure can be arrived at only when everything regarding it, favorable and the contrary, is published, I deem it my duty to bring to public notice the following case:

H. B——, a robust, tall pianomaker, on whom Carnochan's operation had been done by myself in 1893 for an infra-orbital neuralgia then existing for seven years, having remained free from attacks for about a year, was operated on a second time by Dr. F. Kammerer, my colleague at the German Hospital, who excised the entire cicatrix and thus again procured relief to the patient in 1894. He was re-admitted with intense neuralgia on February 21, 1895, and excision of the Gasserian ganglion was determined upon. His general condition was good, and with the exception of a lagophthalmos and shallow corneal ulcer of the eye corresponding to the site of the former operations, all his organs were found to be in a normal state.

On February 25th, Hartley's operation was performed under good chloroform anæsthesia. The patient's skull was very large, its thickness and the normal processes and depressions all very strongly developed, a circumstance which is of practical importance, as the facility with which the operation can be performed is materially influenced by this. Where there is a small skull with slightly developed inequalities, the detachment of the dura is much easier, and the depth of the wound much less than was the case in the instance of this patient. The facts here indicated ought to be expressly mentioned in every published history, as they offer an important clew to the remarkable variations in the ease of performing this operation observable in the experience of different surgeons. That this circumstance is of a real technical importance was further established by me in doing the operation on four cadavers,

three of which were women. Here the raising of the dura and the exposure of the ganglion were very easy in the women, as the inner surface of the temporal fossa was nearly level and the wound not very deep. In the fourth, a man's case, things were very much as we found them in the operation performed on the subject of this article.

The usual omega incision was made through the integument. The V-shaped gouge recommended by Hartley was found in my hands to be a very slow, ineffective, and treacherous tool. After the outer table was divided, the instrument easily penetrated the vitreous table, and in one place, an inch-long laceration of the dura was the result. I found that a well-sharpened carpenter's chisel of moderate width, held so inclined as to cut with one edge only, gave a much more rapid and satisfactory result in cutting the desired trench. Separation of the omega-shaped osteocutaneous flap required fully thirty-five minutes, and would have needed more time in a slow or timid operator. The middle meningeal artery remained intact, and no trouble was encountered from it. As the convolutions and sulci of this brain were very strongly developed, the inner surface of the temporal fossa was correspondingly uneven; and as the dura was intimately adherent, the stripping up necessary for the exposure of the Gasserian ganglion was not easy. An elevator had to be used here and there, and finally the foramen ovale was reached. Much cerebro-spinal fluid had escaped after the tearing of the dura, and hence the bottom of the cavity could be very well exposed by the aid of Hartley's lever.

In liberating the infra-maxillary branch of the nerve, suddenly profuse venous hemorrhage was encountered, which was very easily controlled by packing a small strip of iodoform gauze into the innermost angle of the cavity, but recurred each time when the packing was removed. Under these circumstances it was not deemed prudent to continue, wherefore the cavity was packed with iodoform gauze, the flap was returned to its normal position, and an external dressing was applied. The operation had lasted seventy minutes. Toward the end the pulse had fallen from 78 to 40 beats per minute, and became somewhat soft.

During the subsequent twenty-four hours the patient vomited twice, but otherwise felt well and was fully conscious and painless. Slept little in the night. On February 26th I found him somewhat drowsy, answering questions slowly but rationally. Pulse, 84; temperature, 100.2° F. Toward evening light delirium with some restlessness. After 10 P.M. he fell asleep and slept all night.

February 27th.—Patient more quiet. At 8 P.M., temperature, 100.6° F.; respiration, 22; pulse, 96.

February 28th, at 2.30 P.M., the patient was again chloroformed, the dressings, slightly soaked with blood and serum, were removed, the flap was raised, and the packing was extracted. The wound looked sweet and fresh as at the time of the first operation, the dura whitish except in the vicinity of the rent made with the gouge, where it was found blackish-blue, and apparently necrosed to the extent of the size of a five-cent piece. The exposed surface of the brain was pale and entirely normal-looking. There was no hemorrhage of any account this time, the second branch, greatly attenuated, but clearly identified by its entrance in the round foramen, was secured in a silk ligature, likewise the third branch. Then the dural sheath enveloping the roots of these nerves was split with the knife, the distal ends of the nerves were divided, and an attempt was made to evulse the ganglion. This did not succeed, as the nerves gave way, and the ganglion had to be removed in pieces with forceps and a small scalpel and scissors. The attenuation of the second branch might have been the consequence of the former operations done. In removing the ganglion some venous hemorrhage was again encountered from a spot behind the foramen ovale, but soon subsided. The necrosed portion of the dura was now excised, the flap was returned in its place, and having placed a slip of iodoform gauze in the posterior angle, the wound was sutured with catgut and dressed. At 8 P.M., temperature, 102° F.; pulse, 96. Patient slept fairly well.

March 1st.—Patient drowsy but rational, free from pain or headache, the temperature varying from 101.2 to 101.8° F.

March 2d.—Very restless; slept poorly and had to be restrained from getting up. Evening temperature, 102.2° F.

March 3d.—Quieter; pulse, 96; temperature, 101.8° F. in the evening.

March 4th and March 5th.—Gradual rise of pulse to 128, and of temperature to 102.6° F., with temporary remissions.

March 6th, 12 P.M.—Temperature, 103.5°F.; pulse, 80; delirium; pulse at times irregular, intermittent, and becoming slow down to 50.

March 7th.—Temperature, 102° F.; pulse as yesterday. Patient restless, at times delirious, but spoken to perfectly clear and rational, free from pain. The dressings were removed, and a clean, sweet, and dry wound was found, from the bottom of which, on removal of the deep packings, about a drachm of pale, entirely clear serum escaped. The brain was found still considerably retracted, its surface pale and pulsating. As we suspected the presence of an abscess several punctures were made through the temporal lobe without yielding anything. The wound was closed, and an encephalitis due to mechanical injury of the brain corresponding to the site of the operation was assumed as the only rational explanation of the patient's condition. There was no sign of paralysis or irritation at any time. The temperature remained at about 103° F., pulse varying above and below 50, and patient remained conscious to within fifteen minutes of his death, which occurred on March 8th. The lungs and kidneys had never shown any signs of disorder.

Autopsy of the skull—general autopsy not being permitted—revealed no signs of meningitis. In the basal portion of the temporo-sphenoidal lobe, corresponding to the deepest part of the wound-cavity, and overlying the greater wing of the sphenoid, a focus of softening of the size of an English walnut, involving the cortex, and containing débris of brain-matter of the color of crushed strawberries, was found. The definition of this focus from the healthy brain was very sharp.

The conclusions to be drawn from this history are: 1. That in certain individuals, on account of local peculiarities of the skull, Hartley's operation may be a technically very difficult undertaking. Hemorrhage may not only be an impediment to safe operating (Keen), but will also be dangerous, producing acute anæmia (shock). 2. Bruising of the brain-matter—be the pulpification due either to direct mechanical influences or to local hemorrhage, or both, is a danger not to be slighted.

The Jury System and Medical Experts.—Two years ago a patient was sent to Bloomingdale with the diagnosis of paresis. He was taken out and a commission appointed to determine his sanity. The medical experts said he was insane, but the jury voted unanimously that he was not. He was discharged. He lately died of paresis. This is only one of many cases in which juries have made mistakes, but it is only the disagreements and mistakes of experts which are exploited in the papers.

Should a Priest Ride a Bicycle is a question that is said to be under consideration by the Roman Catholic authorities. It has been suggested that such a form of exercise is derogatory to priestly dignity.

THE USE OF TORSION INSTEAD OF LIGATURES.[1]

By JOHN F. ERDMANN, M.D.,

NEW YORK.

PROFESSOR OF PRACTICAL ANATOMY, BELLEVUE HOSPITAL MEDICAL COLLEGE; LECTURER ON DISEASES OF THE RECTUM, BELLEVUE HOSPITAL MEDICAL COLLEGE, SUMMER SESSION; VISITING SURGEON TO THE WORKHOUSE AND ALMSHOUSE HOSPITALS; VISITING PHYSICIAN TO CITY HOSPITAL; CHIEF OF THE SURGICAL CLINIC ST. VINCENT'S, OUT-PATIENT DEPARTMENT, ETC.

MR. CHAIRMAN AND GENTLEMEN: At the present day our object in all operative procedures is to obtain primary union, and to obtain this result we believe that the less foreign matter introduced between the flaps the greater will be the chances of such union taking place. Knowing the difficulties we meet in the sterilization of the organic ligatures so commonly used at present, and also the almost impossible feat of keeping these ligatures sterile or antiseptic during an operation, especially in private practice, I resolved to try torsion as a means of checking hemorrhage from the divided vessels. By its use we dispose of the ligatures that act as foreign bodies, and which are very likely to be a source of irritation and also a possible means of infection, either by not being sterile primarily or by becoming infected, as a result of exposure and contact during the operation, with hands and materials not sterile nor absolutely antiseptic, and further, we dispose of a possible means of hemorrhage due to an imperfectly tied knot or slipping of the knot due to the condition of the ligature as occasionally observed in the use of catgut. As a result of disposing of these undesirable features primary union is much more apt to attend our efforts. Another consideration, but of minor importance, is the time occupied in doing torsion as compared to ligation. Torsion requires but the turning of the forceps, in the unlimited method, four to eight times, in the limited it requires the proximal fixation by means of a forceps or the finger and thumb, and then giving the distal forceps four to eight turns, and finally, the releasing of the forceps in either of these methods; while in ligation the ligatures are cut, then passed by an assistant, provided we are fortunate enough to have one, then tied, then the free ends cut beyond the knot, and finally releasing the forceps, thus causing an unnecessary amount of handling of material and a corresponding increase of danger of infection. It is but proper to state that we cannot apply torsion to all vessels, nor do we advocate it; occasionally a vessel is grasped and all attempts at torsion fail, the vessel bleeding as a result of the tearing of the walls owing to disease. Two such instances occurred in my work during the last eighteen months, one being in a radical cure for hernia, and the other in a case of dissection of the axilla for secondary growths following malignant disease of the mammary gland. In these cases the use of the ligature was followed by the same result until I included some of the surrounding tissues in the ligature to prevent its cutting through the coats of the vessel.

The possibility of hæmatoma, or secondary hemorrhage, occurring as a result of this means of checking hemorrhage is very slight, in fact, I would say much less when properly done than in ligation. This occurred once in my cases (a case of radical cure for hernia) out of about one hundred and five operations, and in this case I have always attributed the cause to the patient's displacing the dressings in the first twenty-four hours; but even here it was not sufficient to require the opening of the wound to check the bleeding, and had drainage been used it would have been considered as simply an excessive oozing. Owing to the fact that primary union is more apt to follow in cases where this method has been used, for reasons previously stated, secondary hemorrhage naturally will occur with much less frequency, and as early adhesion of flaps acts as a mechanical agency in preventing hemorrhage recurring, it is my custom in all cases where possible to close my wound without drain and seal it with plain flexible collodion. The absence of drainage and ligatures allows of better apposition and earlier adhesion than in cases where they have been used.

Torsion is either limited or unlimited; by the former some means is employed, usually a forceps or the thumb and finger grasping the cleared vessel, to prevent the twisting of the vessel beyond a certain point; while in the unlimited variety twisting is only limited in the length of the vessel-walls by the number of turns given to the forceps grasping the end of the vessel, or by the first large branch given off above the bleeding point, and also by the surrounding tissues.

Limited torsion is done by grasping the bleeding point with an ordinary artery clamp, then drawing the artery out and clearing it for a short distance of all surrounding tissues, then grasping the proximal end of the cleared portion between another pair of forceps, preferably narrow bladed, or between the thumb and a finger for a point of limitation to the twisting, and then giving the distal forceps four to eight turns.

Unlimited torsion consists simply of twisting the vessel with the forceps at the bleeding orifice four to eight times. My custom has been to grasp the bleeding point, then grasp the proximal portion without especial care to exclude all of the surrounding tissue in small vessels, and to clear carefully in the larger ones, then giving the forceps four to six turns. Care should be taken to grasp the vessel so as to occlude the entire lumen, otherwise a portion of the wall only is grasped, and imperfect torsion is done, or a portion of the wall is torn off, and in either instance the bleeding continues and the desired results are not obtained.

As a result of torsion on vessels[1] the inner and middle coats rupture, and an incurvation and retraction takes place in them resembling a valve-like or nipple-shaped occlusion; this incurvation takes place in the opposite direction of the blood-current and favors the coagulation of the blood; whereas[2] in ligation there is no incurvation, but the inner and middle coats rupture and invert slightly and resemble a V-shaped mass. The ends beyond the point of rupture of the walls are absorbed or become contracted, with less danger to the patient than the ends in cases of ligation, owing to the presence of the foreign and possibly infected material used in the latter method.

In conclusion, I regret to say I can present you with no cases of my own of torsion in vessels of the size of the brachial and femoral in man, but give you some of the results of others on large vessels.

Thomas Bryant[3] says that "for fifteen years I've used torsion, the femoral being the largest, never having a mishap; and think it the most physiological method of checking hemorrhage."

John H. Dill, F.R.C.S.,[4] reports seventy cases with no mishaps, and in a list of thirty cases, we find reported torsion of the femoral five times, popliteal and brachial each twice, and the axillary once, all being successful.

M. McCormac,[5] of St. Thomas's Hospital, reports the use of torsion to the exclusion of any other method, among the cases being many of the femoral at the hip, with but one case of secondary hemorrhage, and that was due to acute pyæmia in a gunshot of the hip, in which the result would have been the same in ligation.

Warren[6] quotes Kocher as follows: "Torsion has a great advantage of forcing a rapid coagulation, and has also its own especial advantage of producing a much more intimate union between the vessel-walls and the thrombus."

[1] Read before the Surgical Section of the Academy of Medicine, May 12, 1895.

[1] J. C. Warren: The Healing of Arteries, etc., 1886, p. 35.
[2] Ibid., page 139.
[3] Thomas Bryant: Practice of Surgery, 4th edition, p. 347.
[4] John H. Dill: London Lancet, 1870, vol. ii., p. 629.
[5] M. McCormac: British Medical Journal, 1874, vol. i., p. 47.
[6] Warren: Healing of Arteries after Ligation in Animal and Man, p. 86.

Finally, I present you with the following list of operations occurring recently to show that I've used no selected cases nor regions. The average age was forty-nine years, the oldest was seventy-seven years of age, and the youngest eight and one-half months; 31 radical cures for hernias, 4 being ventral and umbilical; 2 explorations of the cranial cavity; 8 abdominal sections, including hysterectomies (ligatures being used in the broad ligaments), ventro-fixations, enterectomy, and appendix cases, colotomy, and a retro-peritoneal growth; 9 genito-urinary, including castrations, transplantation of urethra after amputation of the penis and perineal sections; 3 gynecological cases, of minor importance; 8 malignant growths of the breast with axillary dissections —6 in the female, 2 in the male; 3 operations upon the upper extremities; 5 operations upon the trunk and lower extremities, the latter including two amputations in which I did not trust to torsion of the femoral and popliteal, owing to diseased vessels, and two removals of portions of the rectum; 6 cases on the head and neck, in addition to the cranial explorations: 30 incidental and minor cases.

149 West Forty-fourth Street.

CHANCRES AND CHANCROIDS IN THE URETHRA.

By C. B. LONGENECKER, M.D.,

PHILADELPHIA, PA.

Chancres and chancroids in the urethra are, in all probability, often overlooked; and, if found, their treatment becomes a matter of considerable difficulty, especially to the general practitioner—so much so, in fact, that these cases are often handed over at once to the specialist, while the general practitioner congratulates himself as being well rid of a troublesome case. But, if a little care should be taken by him to investigate any suspicious discharge from the urethra that does not exactly resemble a gonorrhœa, and if, when found, a little care as to treatment of same be given, results will be obtained that will be a credit to him and to his patient; or, if neglected, may go from bad to worse, until finally the case passes from his hands to the specialist, and the result is not only the loss of the patient, but loss of confidence in the ability of the general practitioner by the patient. I therefore wish to make a contribution to the subject of chancroids in the urethra, and their treatment, prompted in so doing by a case that fell into my hands (being declared as gonorrhœa by another doctor who first saw the case), and by an article by Dr. Clark in *The Boston Medical and Surgical Journal* of December 20, 1894. This I wish to do more especially because Dr. Clark's methods of treatment are almost identical with those used by me, and the results are likewise all that can be desired.

I have only one case to report, it is true, but Dr. Clark reports two others; and probably still other cases could be found to bear out the efficiency of this form of treatment of a disease which, when located in the urethra, is most difficult to handle.

In the case which I report, the first lesion was a chancre, which was followed, when nearly well, by a well-developed chancroid higher up in the urethra, and it was this chancroid that gave most of the trouble.

A young man called on me in January, 1894, and wished me to examine and treat a discharge from the urethra which, he had been informed, was a gonorrhœa. He had already had two or three attacks of gonorrhœa, the last attacks of which, he said, still gave him trouble. Some months ago had a bubo, which was opened, but which still continued to discharge. He was of the opinion that his present discharge was gonorrhœal, as he had been exposed two weeks, and again one week, before the discharge began. Discharge had been present one week before he presented himself.

On examination a sero-purulent discharge was found, coming from the urethra. Just within the meatus, and on one side, he complained of a tender spot. This led to an examination of the urethra, when a chancre was discovered, just within the meatus and extending into the urethra about three-eighths of an inch, no part of it being visible externally. This was cauterized with pure nitric acid after applying four per cent. cocaine solution to the part. The acid was quickly neutralized with solution of sodium bicarb. The urethra was then plugged with a cotton tampon smeared with aristol ointment, twenty-five per cent. strength. These tampons were formed by twisting a pledget of cotton on to a screw-thread applicator, smeared with ointment, and inserted in the urethra while still on the applicator; when in position the applicator was unscrewed, leaving the cotton in position, leaving one end protruding from the urethra, while the inner end was carried well beyond the ulcer. This tampon was withdrawn by the fingers before urination and replaced with a fresh one after.

That the lesion was a true chancre was very definitely proven by all the secondary symptoms coming on about six weeks after the appearance of the primary sore—old bubo increased in size and discharged freely; sore throat with mucous patches; hair coming out; painful nodes about scalp; abundant rash; and finally, disappearance of all symptoms under specific treatment in a very brief time.

The ulcer which followed cauterization of the chancre was doing nicely under aristol tampons, and was nearly well, when the patient's desires got the upper hand of him and he again exposed himself to contamination, with the result that in a few days a chancroid spread along the urethra, beyond the original lesion. This one gave more trouble than the first, as it was harder to treat, had a tendency to spread rapidly, and was much more painful.

This chancroid was cauterized with arg. nit. solution (about one-half strength of saturated solution), as it was a question whether it would be advisable to go so far into the urethra (about three-quarters of an inch from meatus to further edge of ulcer) with an agent so strong as nitric acid. But the result demonstrated, probably, that nitric acid would be preferable, as a tremendous œdema followed arg. nit. solution, necessitating the use of a catheter for removing the urine for several days, as the urethra was entirely closed; and this followed the greatest care in the application of the solution, and the use of salt solution afterward to neutralize the arg. nit. application. If another case comes my way nitric acid will probably be used, as the ulcer seems to heal quicker and cause less disturbance, besides being rather more radical treatment.

In regard to a catheter, I may say that a woven catheter (a short length cut off), of small size, was first used; but the insertion of this caused great pain on account of the rough end. Casting about as to what next to try, for he had to have something to carry with him, a glass tube was decided on, and it was found to be most satisfactory, as it could be inserted without pain, and was easily kept clean. A glass tube of No. 14 French, about three inches long, with ends rounded in the flame of a spirit lamp, constituted the catheter, and it is one that anyone can make for himself. For lubricant, boro-glyceride, twenty-five per cent.—itself an antiseptic of no mean degree—was used. This catheter was used until the œdema had subsided to a great extent, when a size much larger was substituted for it; this served to distend the urethra each time it was used, and its use was continued until the ulcer was healed, with the result that it, with the cotton tampon, left the urethra about its normal size. The cotton tampon was likewise continued until healing was complete, which, for the second ulcer, was rather long delayed. But it was helped along by the local application of tr. iodi. Eventually a complete recovery was the result.

I may add that I desire nothing better for examining

this portion of the urethra than an ear speculum or a dressing forceps, both of which can be used to advantage.

For ease in applying the speculum an obturator was made of glass tubing of a size sufficiently large to fill the small end of the speculum; the end was rounded and closed in an alcohol flame; a short distance back an angle was formed which acted as a stop against the side of the speculum, to prevent the obturator from being pushed too far through.

The method of examining is similar to that used for the deep urethra: the speculum and obturator are inserted together to the proper depth, going beyond the ulcer. The obturator is then withdrawn. With a good light thrown into the speculum it is slowly withdrawn, and the whole surface of the ulcer comes into view, when applications can be made as desired, and without guesswork.

The final healing of this ulcer under aristol ointment, with a touch of tr. iodi every day or two, was all that could be desired, and nothing more stimulating was demanded in this case.

This young man carried his "surgical kit," consisting of aristol ointment, absorbent cotton, applicator, catheter, and boro-glyceride, all in a little package in his vest-pocket, and he experienced no trouble in using them correctly; he always used them, as his catheter was quite necessary to his well-being, and to have forgotten or mislaid it would have subjected him to considerable discomfort.

In conclusion, the attention of the general practitioner is directed to the following points: 1. Examination of anterior urethra when a sero-purulent discharge or pain is present. Examine with speculum and in a good light. 2. If lesion is found, a prompt and complete cauterization of it with nitric acid. 3. The distention of the urethra with a tampon of cotton or other suitable material, and an ointment, until healing is concluded. 4. The use of a glass or other easily-cleaned short catheter for urination. 5. The use of the speculum and a good light for subsequent topical medication, and inspection of healing process.

3501 Hamilton Street.

Anæsthetics: the Collective Investigation.—Professor Gurlt, the secretary of the Congress of German Surgeons, has made a report on the above subject. The collective investigation has now been going on for five years. This year 52,677 new cases were reported, of which 31,803 were chloroform narcosis with 23 deaths, and 15,712 were ether narcosis with 5 deaths. In 2,148 cases narcosis was produced by a mixture of chloroform and ether, in 1,554 by the so called Billroth mixture, in 1,425 by ethyl bromide, and in 34 by penthal. The use of ether has much increased. The mortality from chloroform seems to be much greater than that from ether; but very often grave disorders of the respiratory organs, such as pneumonia and bronchitis, result from the inhalation of ether, and death from those complications ought to be regarded as equivalent to death under anæsthetics. Ether was especially harmful after laparotomy. Dr. Schleich (Berlin) explained his theory of the action of anæsthetics. According to him, they are more dangerous the more their boiling-points differ from the temperature of the body. He has devised an anæsthetic mixture (chloroform and petroleum ether) whose boiling-point is the same as the temperature of the body, and states that he has obtained excellent results, all the disagreeable symptoms (vomiting, etc.) being absent. Dr. Rosenberg (Berlin) recommended that the mucous membrane of the nose should be brushed with a solution of cocaine before the commencement of the narcosis. Dr. Rehn (Frankfort) gave a warning against the use of chloroform near a gas-light, as ethylene chloride is formed.

Progress of Medical Science.

A New Method for Anchoring the Kidney. — Dr. Reed calls attention to the following anatomic landmarks in anchoring the kidney. Clinical experience teaches that movable and floating kidneys occur more frequently on the right side than on the left. In this connection it is well to remember that the right kidney, when in its normal position, is usually located a little lower than its fellow, and, on the average, measures about four inches in length. The left kidney is usually longer and narrower than the right kidney. The upper margin of the right kidney, when in its normal position, is on a level with the twelfth dorsal vertebra. This throws its margin slightly above the upper border of the twelfth rib, which is an important point to remember in the operation the author describes further on. The left kidney being located a little higher than the right, its upper margin not infrequently is on a level with the lower border of the eleventh rib, and sometimes even reaches a point slightly higher. The right kidney is usually about two and a half inches in width, while the left kidney seldom exceeds two inches, but makes up for its reduction in width by increase in length. They are each about one inch in thickness, which is also an important factor in considering the question of anchoring. By keeping these anatomic memoranda in view, the operator will be able to comprehend the mechanical conditions that are present, and which he must meet in anchoring a floating or movable kidney in its normal position. Reed's operation consists in making the ordinary perpendicular abdominal incision over the median line of the kidney. As a rule, it need not exceed two and a half to three inches in length, depending largely on the thickness of the abdominal walls. Having made the incision sufficiently large to get the fingers in and bring the kidney to its normal place, he then uses a long needle, varying from five to seven inches in length. Two of these needles are threaded with aseptic silkworm gut or aseptic silk, using but one ligature, armed with one of these long needles at each end. Having placed the kidney in its normal position (and in the case of a floating kidney having scarified the peritoneum so as to favor adhesions), he inserts his first needle through the upper and inner part of the cortical substance of the kidney, directly through the muscles of the back, coming out between the eleventh and twelfth ribs. The second needle, which is on the other end of the ligature, is also passed through in a similar manner, about an inch from its fellow, through the upper and outer cortical substance of the kidney. These ligatures are tied on the integument. If necessary, another suture is inserted through the outer margin of the kidney, the first needle of the second suture being passed about an inch below the last needle of the first suture, and the second needle of the second suture about an inch below the first needle of the second suture, through the cortical substance of the outer portion of the kidney. By anchoring the kidney in this manner, the entire operation can be performed in not to exceed fifteen minutes, unless there are some troublesome complications to contend with. In tying the sutures, care should be taken to draw them sufficiently tight to not only hold the kidney in place, but to produce sufficient irritation to excite inflammatory adhesions, which are intended to hold the kidney in place, and which are essential to make the operation a permanent success. It is also necessary to be guarded against tying the sutures so tight as to cut through the peritoneum and the substance of the kidney. Either of these conditions, however, can be avoided by care on the part of the operator. After properly tying the sutures, the abdominal wound is closed in the ordinary manner. The anchor is allowed to remain from ten

days to two weeks. At the end of this time adhesions are formed sufficiently strong to hold the kidney in place when the anchor is removed, and in two weeks more the patient will be able to leave the hospital. The advantages claimed for this operation are simplicity, rapidity, and efficiency. The operation is practically bloodless. There is no danger of injuring the abdominal viscera. It is easily performed, and the results so far are certainly very satisfactory, as illustrated by the case with which the author concludes his paper. —*The Therapeutic Gazette.*

Cerebral Amyotaxy.—Dr. Rossolimo applies this term to the form of hyperkinesis presented in the following case (*The British Medical Journal*): At the time of reception into the clinic in October, 1893, the patient, a clerk aged thirty-three, exhibited continuous spasticity and jerking movements in his right upper limb. The arm was a little abducted, the elbow flexed, and the fingers were bent into the palm, or variously flexed and extended as in athetosis. At times the contractions extended to the muscles of the neck and trunk. The hyperkinesis was aggravated by direct efforts to restrain the movements; by slight emotional disturbances; by diversion of the attention—for example, to a mathematical problem; as well as by strychnine, Indian hemp, and the early stage of choloroform narcosis. During sleep both tonic and clonic spasms disappeared. They were lessened by strong emotion, such as anger; by fixing the attention on little digital exercises that the patient had devised successfully for his relief; they were also diminished by morphine, chloral, atropine, and phenacetin. Galvanization of the head and neck gave unfavorable results, but faradization of the limb quickly relaxed the tense muscles. The whole musculature of this limb was hypertrophied. Voluntary movements of the right hand were much facilitated by simultaneously executing a corresponding movement with the left hand. In the muscles of the other limbs, and of the trunk and face, were frequently recurring clonic contractions, involving smaller or larger fasciculi or whole muscles, and producing involuntary movements, specially noticeable in the fingers of the left hand. The patient stammered badly; attempts to speak excited disordered action in the respiratory and laryngeal muscles, as well as those of the tongue and face. This speech-trouble dated from childhood; the other motor anomalies began in 1891, affecting first the digits of the right hand in a manner resembling writer's cramp, and gradually spreading therefrom. Myotatic irritability not excessive. Electrical reactions normal. Muscular sense and cutaneous sensibility unaffected. The only abnormalities in connection with the eyes were slight insufficiency of the interni, and diplopia. The latter did not appear until December, 1893, and was more pronounced whenever the movements in the right arm were most extensive. The author discusses reasons why this case cannot be classed as mogigraphia, athetosis, or under any other established nosological denomination. Taking into account the patient's neurotic heredity (mother and two sisters hysterical, brother hypochondriacal) and stigmata of degeneracy (obsessions, etc.), he thinks that the cerebral amyotaxy must be regarded as the motor symptom of degenerate brain structure, in the same way as the imperative ideas are the psychical symptom.

Non-operative Treatment of Congenital Dislocations of the Hip.—Schede has since 1880 treated these cases by orthopædic methods, which have given him excellent results. Upon the ground of his experiences he holds that the congenital dislocation of the hip-joint is by no means the incurable condition which it has been supposed to be, and that under certain circumstances it cannot only be greatly improved, but brought to a complete anatomical cure. His method rests upon the fact that in the vast majority of children with congenital hip dislocation, in whom no secondary changes have been caused by walking, a simple traction upon the leg and a slight abduction suffice to place the head in the acetabulum, and that, further, a moderate lateral pressure upon the greater trochanter is only necessary to retain the head of the bone in this position. After the child has begun to walk, the prognosis is less favorable. By the end of the second year, certainly in the third, the changes have become so marked that simple manual extension no longer suffices to reduce the deformity. But in such cases the employment of continuous extension by means of weights for a few weeks or months so restores the positions that, with abduction and pressure over the trochanter, the head of the bone may be made to go back into its place and remain so firmly that pressure upon the sole of the foot no longer causes it to ride out. In order to combine the lateral pressure over the trochanter with extension, Schede has had constructed splint apparatus, which differs from the common splint of Taylor in that the abduction-hinge is transferred from its position above the flexion-hinge for the hip-joint at the upper border of the pelvic band, and placed a little below the flexion-hinge. The screw which regulates the angle of abduction does not now work against the pelvic girt, but against the upper part of the cuirasse, which extends up to the tip of the trochanter. This itself is changed into a two-armed lever, the hypomochlion of which is the abduction-hinge. The more the abduction, the stronger the pressure upon the upper border of the thigh-piece against the trochanter major. The counter-pressure comes upon the sound side of the pelvis through the pelvic girt. In the application of the apparatus, the following cautions are laid down: 1. In putting on the shoes no pressure should be exerted upon the hip-joint. The pressure should be counterbalanced by extension upon the leg. 2. The abduction-screw permanently fixes the position which the physician wishes. It should be so arranged that it cannot be accidentally turned. 3. When the shoe has been put on and the upper and lower leg-pieces fastened, one person takes hold of the leg and splint and makes strong extension in the direction of abduction, while another fastens the pelvic girt.

This splint should be worn till a cure is effected. As repairs have to be made in such apparatuses, a duplicate should always be on hand. The child should not take a single step without the apparatus after the treatment is once begun. At night moderate extension of four or five pounds is kept up by the use of the air-pillow leg-girt. The apparatus should be gone over and readjusted at least every six or eight weeks.

Schede presented before the Congress a number of patients treated after his method. The first was a fifteen-year-old girl, who, when she was eleven months of age, suffered an unfavorable prognosis from Martini and R. von Volkmann. For three months she was treated by Schede in moderate extension. The splint was then applied, and at the end of a year she was completely cured. For the sake of safety she wore for six months a short abducting splint. Since then she had had no treatment. The cure is absolute and complete. The function of the joint is normal, and nothing abnormal can be discovered about the joint. He presented also a five-and-a-half-year-old girl, which he had begun to treat three years before; and a twelve-year-old boy upon whom he began treatment at the age of six. In these the treatment is not completed, but a good result is certain. They walked without splints without limp. The head is in the position of abduction, and when the leg is in normal position the head is entirely in place, and the trochanter is at the proper height. A slight dislocation can be detected when the leg is strongly ad ducted, and at the same time the thigh is pulled upward. Schede also reports four children which came under treatment at the age of from five months to eighteen months. The duration of treatment was one

to four years. Eleven others, among which are the two cases presented, are nearly cured, and excellent results will be obtained in all. Treatment was begun at ages ranging from seventeen months to four years. Only the boy presented was six years of age. They wore the splints from eighteen months to six years of age. Great improvement has been secured in eleven more cases, in which treatment was begun ranging from two to five years of age. In all of these a considerable period of treatment by extension had to be employed, though the head in all cases was brought into place and held there by the splint. Among four cases somewhat older, eight to ten years of age, three patients after wearing the apparatus over a year were greatly improved, inasmuch as the leg was lengthened, and the gait much improved. They still wear the splint. The fourth case was made to discontinue the use of the apparatus because the parent lost patience with it. In contrast to these, eight cases are reported in which the results are less satisfactory. In three the parents did not show the necessary interest, and the treatment was eventually abandoned. In six children, ranging from three to seven years of age, the secondary changes were so great that a reduction of the dislocation could not be accomplished. Orthopædic treatment was not tried in these cases. Two of the cases were operated upon and good results obtained. In four other cases of children, from two to three years of age, the treatment was carefully carried out for some years, but no satisfactory result was reached. Two of these were cured by operation. Schede has thus reported his experience with twenty-nine cases—four cured, eleven almost cured, and fourteen but slightly improved, of which the majority will have a good result. There are eight cases without result, and eight which were lost sight of, six of which were not adapted to the treatment. Besides the fifty-one single cases, Schede has had thirty double dislocations. He regards an early diagnosis of the greatest importance, as having a bearing of much moment upon the treatment and prognosis. —*Annals of Surgery.*

The Acute Infective Diseases and Abortion.—Dr. Klautsch says that pregnancy may be brought to an end either by the death of the fœtus or, less frequently, by premature uterine contractions. The fœtus may die owing to (1) deficiency of oxygen; (2) alteration in temperature; or (3) direct transmission of the infection. These conditions may be combined. The inconstancy of the transmission of the infection the author would explain by the circumstance that it can only occur when the normal connection between the maternal and fœtal circulation is disturbed. Premature pains may be caused by (1) increased body temperature; (2) altered blood; (3) changes in the uterine mucous membrane, as in endometritis exanthematica; or (4) toxins present in the blood. If the deficiency in oxygen occurs rapidly, the fœtus dies; if more gradually, pains are induced. In typhoid fever abortion occurs in more than half the cases, and the fœtus is mostly born dead, the death being most often due to the transmitted infection. Cholera is not transmitted to the fœtus, the death being here due to the altered blood, to an endometritis, to a diseased fœtal placenta, and to temperature variations. In measles the fœtus rarely dies. In severe malaria the fœtus is more often born alive, but soon dies of malarial cachexia. In pneumonia the death of the fœtus is not uncommon, and is due to asphyxia. Variola frequently kills the fœtus, yet many are born alive. As regards the pains, the fœtus may be expelled in variola even during the suppurative stage; in malaria after the paroxysm; in erysipelas most often when the eruption appears; in cholera during the transition stage; in influenza soon after the onset of the febrile symptoms; and in pneumonia on the third or fourth day. In typhoid fever the abortion may be accompanied by much hemorrhage, or strong contractions and little hemorrhage. In cholera the hemorrhage is profuse and the contractions violent. The fœtus is mostly much more threatened by the altered temperature, disturbed circulation, and pathological changes in the endometrium, than by the transmission of the infection.—*Müenchener medicinische Wochenschrift.*

Leucorrhœa in the Unmarried.—According to Dr. Slocum (Philadelphia Polyclinic), in the treatment of leucorrhœa in young unmarried women instances frequently occur in which the usual practice of making an examination to ascertain the condition of the pelvic viscera is so obnoxious to the patient, or is so firmly opposed, that the physician is forced to abandon it and have recourse to medicine. In such cases Dr. Slocum has learned to depend upon the specific action which cantharides appears to exercise upon the cells constituting the genital as well as the urinary system. It is probably by direct stimulation of the cell just to the point of successful resistance that the benefit is secured, as the dose is very small. Strangury, or other unpleasant symptom, has not been produced. The action of the drug has been so uniformly satisfactory that when it fails such result forms a strong basis for suspecting the presence of something more than simple hyperæmia or mild inflammation. Lessening of the discharge is sometimes noted within five days, but in several cases of profuse discharge of four years' and longer duration, the treatment was not successful until after a month's persistent use. The formula which has seemed the best contains the tincture ferric chloride and dilute phosphoric acid. These, though probably modifying the action of the cantharides, are only adjuvants. Following is the usual form of administration:

Tincture cantharides	℥ xcvj.
Tincture ferric chlorid	℥ clx.
Diluted phosphoric acid	℥ clx.
Sirup lemon	fl. ℥ ij.
Water sufficient to make	fl. ℥ iv.

M. S.: One teaspoonful, in water, after meals.

Onychophagia a Sign of Degeneration.—As the result of an inquiry carried out in several schools, for both sexes, Dr. Bréillon is confirmed in the opinion which he has already expressed, namely, that onychophagia, and habits of a similar order, are generally connected with degeneration. The frequency of onychophagia is very variable in different centres. In some schools not more than two or three children out of ten are addicted to nail-biting, but in others, and especially in the city of Paris, the proportion of onychophagians is often very considerable, amounting in the aggregate to upward of a third of the total number of pupils that came under observation. A careful examination almost always brings to light the stigmata of degeneration. The children who indulge in the practice are commonly more puny than the others; and they frequently present cranial deformities, irregular teeth, abnormally placed and shaped ears, etc. It has been noted by many teachers that the subjects of onychophagia exhibit a well-marked antipathy toward physical exercises, and more especially toward games involving sustained efforts. They write badly, and in general are remarkably deficient as regards manual dexterity. Perseverance is never observable among them, and for the most part they are unmanageable. In a word, when compared with other children of the same age they invariably manifest inferiority in some shape or form. All teachers agree that the pedagogical methods usually employed are quite unable to effect a cure. In the majority of cases this can only be obtained by the use of hypnotic suggestions. Ordinary suggestion, in the waking state, is only occasionally successful. The habit of nail-biting sometimes persists to an advanced age. In our own practice we have successively treated an old man seventy-two years of age, and a lady fifty-six years of age, who from earliest infancy had been incessantly the victims of onychophagia.—*Annales de Psychiatrie.*

Reviews and Notices.

ANTITOXIN THERAPEUTICS OF DIPHTHERIA, According to the Observations Made in the Emperor and Empress Frederick Children's Hospital in Berlin. By PROFESSOR DR. ADOLF BAGINSKY. Die Serumtherapie der Diphtherie nach den Beobachtungen in Kaiser- und Kaiserin-Friedrich Kinderkrankenhaus in Berlin. Pp. 330. Berlin, 1895.

IN his brief preface the author states that the material on which his book is based consists of all the cases treated from March 15, 1894, to March 15, 1895, exclusive of the months of August and September, during which no antitoxin could be obtained. During the ten months of persistent administration of the remedy he came to two conclusions: First, that bad cases which offered a bad prognosis according to previous experience would steadily improve and get well; and second, that when the administration of antitoxin had to be interrupted the former mortality returned at once.

The final conclusions of the book, which consists of two about equal parts—1, A general review of the symptomatology and pathology, and the therapeutics of diphtheria; and 2, a tabulation of 525 cases treated with antitoxin—are as follows:

1. The Loeffler bacillus is the cause ("Erreger," inventive) of the malady which is characterized as "diphtheria" by its clinical course. It is with its presence that the dangerousness of the disease is connected. Pharyngeal changes which resemble the local diphtheria alterations, but are accompanied with, or engendered by, cocci, represent a disease which differs entirely from diphtheria (diphtheroid[1]). The latter is not very dangerous. Mixed infections, in which the Loeffler bacillus is met with large numbers of cocci, are the most dangerous forms. Many of them take a septic course.

2. Diphtheria is very contagious, and is transmitted both by direct contact with the sick and by objects to which the bacillus clings with great pertinacity. On that account measures of precaution against the spreading of the disease are demanded, and ought to be legalized and enforced.

3. Antitoxin ("Heilserum") has proved thoroughly efficient, and the best of all the remedies thus far employed against diphtheria.

4. The method of injecting is exactly like that of making subcutaneous injections in general. Strict asepsis is required.

5. Antitoxin is the more effective the sooner after the first appearance of diphtheria it is employed. Its employment ought to be combined with the local cleansing—aseptic—treatment now in use, which is both rational and efficacious. This combined method has reduced mortality to one-third of the former death-list.

6. The dose of the remedy depends on the earlier or later time of its administration, on the severity of the infection, and the age of the patient. It amounts to from 600 to 4,000 antitoxin units. It is best to employ the full dose at once; still an additional administration is advisable in an obstinate case.

7. The effect of the remedy is visible in the limitation of the local process, and later on in the rapid loosening and removal of the morbid products, and in the improvement of the general condition. The first symptom of this improvement is the reduction of the fever.

8. The remedy is most efficient in the cases of non-septic diphtheria; still, mixed infections—septic diphtheria—are also favorably affected by it. They demand rather larger doses.

9. The administration is not complicated with serious accidents and subsequent diseases. Exanthems have often been observed, but, though they were accompanied with glandular tumefactions or joint affections, they proved devoid of danger. The antitoxin does not cause renal or cardiac disease.

10. For the present a conclusive opinion on the value of antitoxin as a preventive cannot be given. The doses of antitoxin—such as are recommended for immunization—being small its use for that purpose is to be recommended.

11. The therapeutical value of antitoxin being securely established by empirical observation, the absence of positive knowledge as to its *modus operandi* in the system is of no account.

It will be noted that "pharyngeal changes which resemble the local diphtheric alterations but are accompanied with or engendered by cocci, represent a disease which differs entirely from diphtheria," and is therefore called diphtheroid. We suggest that there is no resemblance "but a perfect equality of the pseudo-membranes in the two classes, in regard to fibrine, epithelial changes, blood-cells, leucocytes, etc.; with the exception that the membranes—perfectly equal in all cases—exhibit in the external layers of many of them the Loeffler bacillus (sometimes very, sometimes moderately, sometimes not at all virulent)—in many, however, streptococci, and in others (the worst form) both bacillus and streptococci. The anatomical condition of the membranes is identical with the exception of the microbe contained therein, and it is the microbe, and not the anatomical structure, and not the clinical features, which have been taken as the most pathognomonic element of diphtheria. This disease and its name existed long before the microbes were known or differentiated, and the clinical features of diphtheria were as well understood then as to-day. Indeed, Gerhard (and Jacobi after him) appreciated the possibility of several causes of what was known as diphtheria. Now, since the differentiation of the microbes it has become the usage to call diphtheria only those cases which depend on, or are connected with, the Loeffler bacillus. To what extent this postulate is justified remains to be seen; to day, however, it is frequently no longer considered a postulate but an axiom, and those who hesitate to take the former as absolute gospel are deemed heretical, in spite of the recognized fact that even the very Loeffler bacillus is not always virulent, but sometimes mild-mannered and powerless.

We can hardly find fault with the author for not giving more than five pages to the consideration of the "former treatment." Three pages, however, are not sufficient to give the least idea of what has been, or can be accomplished, by both internal and mild, but persistent and appropriate local treatment; still, we must not forget that whatever Baginsky says as an introduction to his main object cannot be expected to take an important place in his book, which has been written for a special purpose. Otherwise, the mercurial treatment, such as it has been introduced among us since 1884, by Jacobi, and tried and eulogized by scores of others here and abroad,[1] with its remarkable effects both on the course of the disease and its mortality, would have deserved a more prominent consideration and greater appreciation. Indeed we have met with many a practitioner in New York who felt he had no use for antitoxin as long as his cases, both naso-pharyngeal and laryngeal, did well under mercury and intubation.

Under the heading of diphtheria, Baginsky no longer comprehends only those cases which exhibit membranes of large size, but also such as were often denied its full rank and dignity. These thirty-five years Jacobi has been teaching among us, and has published a number of times the empirical fact, that very many cases of "catarrhal" pharyngitis and follicular or "lacunar" angina were really diphtheritic, not only

[1] This term was first used by French authors, and introduced into German literature by Baginsky, and after him by Escherich.

[1] T. B. Bennie, M.A., M.D.: Some Remarks on the Treatment of Diphtheria by Mercurial Salts. Australian Medical Journal, January 20, 1895.

leading to further and more legible symptoms, such as nasal and laryngeal diphtheria, but also terminating in paralysis of the patient, and contagion among his neighbors. Koplik proved the correctness of this claim by bacteriological researches, and Baginsky again confirms these multiple features of diphtheria by subjecting every actual or suspect case to bacteriological examination. Thus the suspicion expressed by many that the European observers, in order to prove the claims of antitoxin, were liable to treat selected cases only, and perhaps even such as were not even proven to be diphtheritic, is not justified. It is true that the presence of a bacillus on a healthy mucous membrane does not constitute diphtheria, but a sore or catarrhal mucous membrane and a tuft of membrane on a tonsil which harbors bacillus certainly do so.

Of his many cases of diphtheria treated with ("serum") antitoxin, Baginsky has published several series, and discussed them, mainly in the Berlin Medical Society. Indeed there is no name more prominently connected with the whole subject than his; and the book he now presents is not the least contribution to pediatrics offered by a most active, conscientious, and justly famous practitioner and teacher. His whole number of cases treated with antitoxin was 525, of which 83 died (15.8 per cent.). Eleven of these were moribund on admission and died within twenty-four hours. Dysentery, croup, and pneumonia were the cause of death in 26, heart failure in 8 cases. The latter was observed in 5.69 per cent. of the 525 cases treated with serum, in 10.9 per cent. of the 993 cases treated without it in the years 1891–94. In regard to albuminuria and nephritis some difference appears to exist between the cases treated with or without antitoxin. In 525 cases treated with serum there was albuminuria in 40.95 per cent., clinical nephritis in 12.57 per cent., post-mortem nephritis in 15.80 per cent.; in 993 cases, without serum, albuminuria in 42 per cent., clinical nephritis in 25.78 per cent., and post-mortem nephritis in 16.31 per cent. Thus in the author's cases there is certainly the proof of rather a favorable inference in regard to renal complications.

It is impossible to enter into a full consideration of the great many facts and observations contained in the book in a review which can do no justice to its merits; but still we ought to refer to the observations made during the course of a number of years on cases of laryngeal stenosis. Since the inauguration of the hospital a large number of tracheotomies and intubations were performed. The latter were often followed by tracheotomies, because of the increase of the threatening symptoms; thus the latter was mostly preferred. From 1890 to the end of 1894 there were 1,258 cases of diphtheria; 418 tracheotomies were performed, and 135 intubations, with a total mortality of these 553 operations of 59, sixty-two per cent. Of 418 tracheotomies the mortality was 64.4 per cent.; 77 of them were performed after previous intubations (mortality of these 77, sixty-nine per cent.); 58 intubations without secondary tracheotomy had a mortality of 41.8 per cent.

This condition of things was changed with the beginning of the antitoxin treatment. The author says that no child (one exception) entering upon the treatment without laryngeal stenosis developed it afterward. Thus the number of operations became less. Among the 525 cases treated with serum there were 53 tracheotomies with 34 deaths, and 54 intubations with 2 deaths. Tracheotomy had to be performed 12 times after previous intubations; in these 12 there were 9 deaths. There were altogether 68 (sixteen per cent.) recoveries after the two operations. From the facts at his disposal Baginsky concludes that under the influence of the antitoxin treatment intubation becomes a full equivalent of tracheotomy; that, indeed, the latter has been replaced by the former, and is reserved only for the very worst cases, either as a last resort or for the purpose of euthanasia. Evidently intubation is steadily conquering larger fields and gathering more laurels.

A Text-book of Physiology. By M. Foster, M.A., M.D., LL.D., F.R.S., Professor of Physiology in the University of Cambridge. Revised and Abridged from Author's Text-book of five vols. 8vo, pp. 1183. New York and London: Macmillan & Co. 1895.

We have from time to time expressed our high appreciation of the author's work in connection with each of the five volumes which have already appeared. In that form no work of its size has compared with it in thoroughness of scientific detail and practical value. The whole ground has been so thoroughly covered that nothing was left to be desired. It is sufficient to say now that the present volume contains all the really essential excellences of the greater work, which is thus placed within the reach of the ordinary student who may not be able to purchase the entire series. This service will be especially appreciated by everyone who wishes to possess one good book that is up to date and contains all that is new in its particular department.

Ein Neues Heilverfahren bei Netzhautablösung. Von Professor Dr. R. Deutschmann. Hamburg and Leipzig: Leopold Voss. 1895.

This is an interesting monograph upon the treatment of detachment of the retina, which appeared originally in the *Beiträge zur Augenheilkunde*. The author reports some excellent results.

L'Insomnie et son Traitement. Par le Dr. Maurice de Fleury, Ancien Interne des Hôpitaux. Paris: Société d'Editions Scientifiques. 1894.

The author of this brochure holds that the use of drugs should occupy a wholly secondary rank in the treatment of insomnia, the main reliance being placed upon hygienic measures. He argues well in support of his belief, which all must admit to be sound, but what is of more importance he seems to prove that hygienic measures will usually suffice to produce the desired effect.

A New Method of Inhalation for the Treatment of Diseases of the Lungs. By W. H. Spencer, M.A., M.D., M.R.C.P., Consulting Physician to the Bristol Infirmary; Late Lecturer on the Principles and Practice of Medicine at the Bristol Medical School. London: The Scientific Press, Limited. 1895.

In this little book Dr. Spencer argues for the necessity of making applications to the lungs of medicaments in the form of a vapor, as that is the only form by which the entire surface of the respiratory tract will be reached. He has devised a vaporizer, in the form of a water-bath, by means of which the remedy may be volatilized and the air of the room be kept constantly saturated with its vapor.

Ozena Verdadero (Rhinitis Atrófica Fétida). Por el Dr. Avelino Martín, ex-Alumno Interno Pensionado y Premiado de la Facultad de Medicina de Barcelona, etc. Barcelona: Luis Tasso. 1894.

In this little work of about one hundred 16mo pages Dr. Martín presents a very clear picture of the distressing and obstinate disease. The principal object of the work is, however, to enter a plea in behalf of vibratory massage as a remedy for atrophic catarrh. The author believes thoroughly in this method of treatment and argues well in its favor.

Coleccion de Artículos de Medicina. Por el Dr. Enrique Lopez. Habana: La Commercial. 1895.

This is a collection of articles written on various occasions and published by Dr. Lopez in different literary

and medical journals in Cuba. Many of them which deal with the history of medicine in that island are of great general interest. Most of the others are on subjects relating to ophthalmology. One is a brief biographical sketch of Dr. Herman Knapp, written on the occasion of his visit to Havana in the spring of 1889.

MANUAL OF GENERAL MEDICINAL TECHNOLOGY, INCLUDING PRESCRIPTION-WRITING. By EDWARD CURTIS, A.M., M.D., Emeritus Professor of Materia Medica and Therapeutics, College of Physicians and Surgeons, Medical Department of Columbia College, in the City of New York. Third Edition, conforming to the United States Pharmacopœia of 1890. New York: William Wood & Co. 1895.

THIS little work is one of the best of its kind, owing to the clear arrangement of the subject-matter and to the easy colloquial style of the author. By its aid a student must be dull indeed who cannot master the art of prescription-writing in a short time. The second part, which deals with the modes of medicating and dosage, contains points which even an old practitioner might profitably make note of. The book, though nearly two hundred and fifty pages in length, is of a size to be carried in the coat-pocket, so that one may carry it about with him until he has thoroughly assimilated its contents.

THIRD ANNUAL REPORT OF THE BOARD OF HEALTH OF THE STATE OF WASHINGTON. Olympia: O. C. White, State Printer. 1895.

IN addition to the usual statistics of births and deaths this volume contains a brief report on the contagious diseases in cattle.

EIGHTEENTH ANNUAL REPORT OF THE BOARD OF HEALTH OF NEW JERSEY. Trenton: MacCrellish & Quigley. 1895.

THIS volume contains several interesting papers and reports, notably one on the causation of disease by milk. An appendix contains the report of the Bureau of Vital Statistics of New Jersey for 1894—a useful addition to statistical literature.

HYGIENE AND PHYSICAL CULTURE FOR WOMEN. By ANNA M. GALBRAITH, M.D., Fellow New York Academy of Medicine, etc. 12mo, pp. 294. New York: Dodd, Mead & Co. 1895.

THIS little book presents the subject in an attractive and intelligent manner and is sufficiently expressive in the statement of well-known scientific facts to convince any lay reader with the reasons of the faith of the author. Every topic is clearly explained from a physiological as well as anatomical basis, and only such points are presented as are necessary to know in order that the most casual reader can appreciate the full force of the reasons why. There are very excellent chapters on the evils of the present dress of the female, particularly referring to the corset and shoe, and many admirable injunctions regarding the proper use of the various bodily functions.

A MANUAL OF THE MODERN THEORY AND TECHNIQUE OF SURGICAL ASEPSIS. By CARL BECK, M.D., Visiting Surgeon to St. Mark's Hospital, New York. 12mo, pp. 306. Philadelphia: W. B. Saunders. 1895.

THIS little work is a compendium of the present status of asepsis and its relations to operation and wound-healing. The author with painstaking spirit dwells exhaustively on all the details, elementary and perfected, that refer to the general subject under the following headings: "Influence of Microbes," "Importance of Asepsis," "Means of Disinfection," "Prophylactic Disinfection," "Disinfection of Instruments and Dressings," "Sterilization of Catgut, Silk, Sponges, Drainage-tubes," "The Aseptic Operating-room," "Aseptic Open-wound Treatment," "Renewal of Dressings," "Technique of an Aseptic Operation," and lastly he gives an excellent chapter on "Anæsthesia."

DISSECTIONS ILLUSTRATED. A Graphic Hand-book for Students of Human Anatomy. By C. GORDON BRODIE, F.R.C.S., Late Senior Demonstrator of Anatomy, Middlesex Hospital Medical School, London. With plates drawn and lithographed by PERCY HIGHLEY. In Four Parts. Part IV. The Abdomen. 4to, pp. 142. London and New York: Macmillan & Co., Whittaker & Co. 1895.

PART IV. comprises sixteen colored plates of the abdominal and pelvic regions, about two-thirds natural size, and thirteen diagrams, and completes the series. On previous occasions we have noticed the different parts in the regular order of their appearance—I. The Upper Limbs; II. The Lower Limbs, and III. The Head and Neck. As will be remembered their illustrations are reductions of the larger and well-known plates of Ellis & Ford, and intended to make a work of cheaper and more convenient size and thus one that can be within the reach of the ordinary student and general practitioner. It is unnecessary to allude to the excellence of these illustrations farther than to say that they are faithful and accurate representations of the originals. In this respect we are only repeating what has been already said of previous sections. The present part contains detail dissections of the superficial and deeper abdominal and pelvic regions, male and female, and also of the perineum. Altogether the work will serve its purpose of refreshing the memory and bringing up the exact topography of the parts involved in an operation when no cadaver is obtainable for rehearsal.

EPITOMES OF MODERN SURGICAL PROGRESS FOR STUDENTS AND PRACTITIONERS—URINARY SURGERY. By E. HURRY FENWICK, F.R.C.S., Eng., Surgeon to the London Hospital, etc. 12mo, pp. 219. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co.

EVERY student of genito-urinary surgery will appreciate this valuable epitome by Mr. Fenwick. He has taken pains to condense in this small volume accounts of all the recent advances in this progressive field of surgery, giving the technique of all the newer operations and novel manipulations, and has altogether presented a mass of valuable practical information on the subjects nowhere else to be found in any convenient compass. The book is a record of progress along the different lines of study taken by the advanced workers, and is divided into the following sections: Surgery of the Kidney, of the Ureters, of the Bladder, Electric Cystoscopy, Diseases and Operations on the Prostate, and Diseases of Urethra and Seminal Vesicles.

ON DISEASES OF THE VERMIFORM APPENDIX. With a Consideration of the Symptoms and Treatment of the Resulting Forms of Peritonitis. By HERBERT P. HAWKINS, M.A., M.D., Oxon., F.R.C.P., Assistant Physician and Lecturer on Pathology at St. Thomas's Hospital. 8vo, pp. 159. London and New York: Macmillan & Co.

THIS is a dissertation presented to the University of Oxford for the degree of Doctor of Medicine in 1894, and is an excellent review of the subject, particularly in its pathological, statistical, and therapeutical bearings. A very full history of the affection is given, and all the important data connected therewith are presented in chronological order. The anatomical and pathological conditions are elaborated with much painstaking accuracy, and numerous well-executed illustrations demonstrate very satisfactorily the bacteriological association with gross lesions. The symptomatology is presented in a clear manner, and the treatment, both medical and surgical, is on a properly conservative basis.

NOTE-BOOK OF MATERIA MEDICA, PHARMACOLOGY, AND THERAPEUTICS. By R. E. SCORESBY JACKSON, M.D., F.R.S.E. Fifth edition. Revised by J. RUTHERFORD HILL, Assistant Secretary of Pharmaceutical Society, and RALPH STOCKMAN, M.D., F.R.C.P.E., Lecturer on Materia Medica, School of Medicine, Edinburgh. 12mo, pp. 743. Edinburgh: James Thin. London: Simpkin, Marshall & Co. 1895.

THE well-established reputation of this valuable and practical manual has been for a long time unquestioned, and it is only necessary to add that the present volume holds its own in being fully up to date and containing everything necessary in a work of its kind.

Therapeutic Hints.

Biliary Calculi with angiocholitis, chills, fever, etc., four to seven grains of calomel every two or three days.—RANGLARET.

Vomiting of Pregnancy.—Paint os with cocaine, or give by mouth, combined with antipyrin:

℞. Chlorhyd. cocaine ..... gr. iss.
Antipyrin ..... gr. xvj.
Aq. dest ..... ʒ iv.
Sig.: Teaspoonful every half hour until the vomiting ceases.

—LUTAUD.

Tapeworm.—Low diet for one day; on morning of second, in three doses at intervals of fifteen minutes:

℞. Honey ..... 3 v.
Ethereal ext. pomegranate,
Eth. ext. male fern ..... āā gr. vijss.
Kousso flowers ..... 3 v.
M. Sig.: Divide into three parts.

—DROUKE.

Chloral may be disguised in gaseous bottled lemonade.—HOLLAND.

Duboisin is most useful as a hypnotic in insomnia caused by intense motor excitation. Hypodermic, $\frac{1}{150}$ to $\frac{1}{75}$ grain.—SKURIDIN.

Pneumonia in Children.—To relieve irritability and restlessness, and to get free elimination and a good action of the kidneys, use

℞. Vini ipecac ..... ʒ j.
Potass. citratis ..... gr. xxx.
Tr. opii camph ..... ʒ ij.
Elixir simplicis ..... ʒ j.
Aquæ dest ..... q.s. ad ʒ iv.
M. Sig.: A teaspoonful to an infant six months old every two hours.

—FRANK S. PARSONS.

Dry Tongue in diabetics, etc.—

℞. Pilocarpin. nitrat ..... gr. ½.
Spirit. vini dilut ..... ♏ xx.
Aquæ ..... ʒ j.
M. Sig.: The tongue is to be moistened with five or six drops of this solution four or five times daily.

Gonorrhœal Cystitis.—

℞. Pyoktanin ..... gr. xv.
Boiled distilled water ..... ℥ ij.
M. Sig.: Inject morning and evening for ten to fifteen days.

—LUTAUD.

Rachitis.—

℞. Phosphorus ..... 0.01.
Cod-liver oil ..... 100.
Saccharin 5
Essence of lemon ..... gr. ij.
Teaspoonful daily.

—GUINON.

Salophen in acute articular rheumatism when the salicylates are not tolerated. One gramme three or four times daily.—HOLZSCHNEIDER.

Citric Acid, 1 to 100, injected six times daily in urethritis, cures in five to eight days.—PELLISSIER.

Eczema of the Vagina.—

℞. Ichthyol ammon ..... 1½ to 2 parts.
Amyli tritici,
Zinc. flor ..... āā 12 parts.
Vaseline ..... 25 parts.
M. et fiat pasta.

—VON SEHLEN.

Asthma.—Nocturnal attacks are said to be guarded against by hypodermic injections of small doses of strychnia and atropia in combination.

Erysipelas.—An antitoxin elaborated through the mule has just been discovered by Dr. Roger.

Burns.—

℞. Lanolin ..... 10.
Adipis benz ..... 20.
Aq. calcis ..... 30.

—UNNA.

Sciatica.—

℞. Tr. aconite,
Tr. colchica sem,
Tr. bellad.,
Tr. actea racem ..... āā p. e.
M. Sig.: Six drops every six hours.

—METCALF.

Hemoptysis.—One and a half to two and a half grains of chloral per rectum if the heart is sound.—PÁL.

Thiosynamin for injection into contracted cicatrices and chronic glandular enlargement.—UNNA.

Horse-radish Spirits as a wash along with other means in rosacea.—PURDON.

Corns.—

Trim your corn in the gray of the morn
With a blade that's shaved the dead,
And barefoot go and hide it so
The rain will rust it red:
Dip your foot in the dew and put
A print of it on the floor,
And stew the fat of a brindle cat,
And say this o'er and o'er:—
Corney! morny! bladey! dead!
Gorey! sorey! rusty! red!
Footsy! putsy! floory! stew!
Fatsy! catsy!
Mew!
Mew!
Come grease my corn
In the gray of the morn!
Mew! mew! mew!

—JAMES WHITCOMB RILEY.

The Benefits of Specialism.—Dr. W. K. Simpson, in *New York Medical Journal*, says: "After having considered the evident present tendency toward specialism, it might be well to consider the debt that the profession owes it. The relief from former ignorance and chaos has been the result of men devoting themselves to special work. The microscope and pathology are brilliant examples. Special surgery has allowed the exploration of regions of the body with impunity which in former times were closed to all knowledge, yielding results which seem but little removed from the miraculous. Look at it as we may, specialism is a natural culmination of the advancements made in the science and practice of medicine, and, as a result, gynecology, ophthalmology, neurology, orthopedics, laryngology, otology, dermatology, and many others have reared domains of their own which are far from being circumscribed; and it has not been the work of narrow-minded men, but men of broad minds and actions that have put specialism on a sure foundation and doubtless have made it the practice of the future."

Clinical Department.

PLACENTA PRÆVIA.

By J. E. VIRDEN, A.M., M.D.,

COCHRANTON, O.

On December 5, 1894, I was called to assist Dr. I. N. Bowman, of Upper Sandusky, O., in the delivery of Mrs. C. M——. Her history, as given by Dr. Bowman and the husband, is as follows:

Mrs. C. M——, American, farmer's wife, aged thirty-three, has always had good health, and is now in her third confinement. In her first confinement, which occurred about four years ago, the husband states that she first had pains for about two days, when the membranes ruptured and the pains ceased entirely; for three or four days following this there was a continuous vaginal discharge, but no pains; then the back began paining severely, and so continued until the attending physician removed a dead child at the end of one week from the first pains.

Her second confinement occurred about two years ago, when she was attended by Dr. Bowman. On the arrival of the doctor on this occasion he found the membranes ruptured and an arm and shoulder presenting; he at once sent for his partner, Dr. McConnell, and while the patient was under an anæsthetic they turned and removed a dead child. Her recovery then was uneventful.

On December 5, 1894, Dr. Bowman was called to attend her in her third confinement. He arrived about 1 P.M., and learned that she had been having some pains since about 6 A.M. Her pains were regular, of good strength, and occurring about once in four minutes. A vaginal examination by him showed the cervix dilated one-third of its full extent and a large bag of waters protruding. Pains continued for some time, when the membranes ruptured spontaneously, discharging about one-half gallon of amniotic fluid. As soon as the membranes ruptured, the labor pains stopped entirely. A vaginal examination at this time showed the cervix soft and readily dilatable, and just internal to it was felt the placenta, covering it so completely that the edge could not be felt in any direction, but in the right inguinal region it seemed as if the fingers reached near the edge; also hanging through the cervix was the collapsed sac that had contained the waters.

Not wishing to take the responsibility of completing the delivery alone, Dr. Bowman was sent for, and arrived at the bedside about 4 P.M. At this time the woman was resting comfortably, having a pulse of about 100, but was rather nervous. The uterus was in tonic contraction. Vaginal examination showed the cervix, placenta, etc., as stated to me by Dr. Bowman.

Our decision was to give an anæsthetic and deliver at once, and in such manner as would be indicated when the presenting part was discovered.

While I administered chloroform, Dr. Bowman, with one hand in the vagina, found the placenta attached entirely around the lower segment of the uterus, except in the right inguinal region, as before suspected. Pushing his fingers through this opening he was able to grasp a foot, and pulling it down, proceeded with the delivery as fast as thought prudent; thus was soon born a living female child.

The cord pulsated until tied. The placenta was removed in a few minutes by Credé's method, and on examination it was found to be of about the usual size, and that about one-third had been situated to the right and two-thirds to the left of the cervical canal.

There was no hemorrhage, and I am sure the woman did not lose more than four ounces of blood besides that in the placental vessels. There had been no hemorrhage or other symptom during pregnancy to cause one to suspect placenta prævia. After the placenta had passed into the vagina she was given one drachm of fluid extract of ergot. After removing the soiled bedding, applying the binder, etc., we found her pulse to be 78. She was perfectly conscious and asked about her baby. The child's appearance was that of one born at term, and it weighed seven pounds.

The mother's recovery was uneventful.

A CASE OF TUMOR IN THE PONS VAROLII.[1]

By CHARLES E. NAMMACK, M.D.,

ATTENDING PHYSICIAN TO THE NEW YORK HOSPITAL, OUT-PATIENT DEPARTMENT.

Mrs. Annie O——, aged twenty-four, married two years, never pregnant, applied for treatment April 23, 1895. She has suffered for five months from constant headache, diffused and deep-seated, and increased by changes of posture, constipation, or mental annoyance. The headache is worse at night, causing insomnia. At the time the headache began she had noticed a gradual loss of power in the right arm and subsequently in the right leg, but no convulsive movement or spasm. She began to have vomiting every morning on arising from bed. Three months afterward she became unable to close the left eye, and noticed a peculiar appearance of the face. At this time she began to suffer from tinnitus aurium. She had also become afraid to go out-doors alone on account of a sense of giddiness and unsteadiness in walking. Her memory failed, and irritability of temper, alternating with depression and emotional excitability, developed. She has had no injury nor severe emotional shock prior to her present illness. She gives no history of alcoholism, rheumatism, or syphilis. Her husband absolutely denies having had any venereal disease previous to marriage. Tuberculosis or organic nervous disease cannot be traced in patient's ancestry.

Examination: Pulse, 120 and feeble, arterial tension low, left ventricle not hypertrophied. Urine is negative as regards albumin or sugar. No evidence of lead poisoning. No pulmonary or laryngeal tuberculosis. There is crossed hemiplegia, the right arm and leg being affected, with the left facial nerve. Patient answers questions slowly, and it is difficult to keep her attention concentrated on an idea. There is nystagmus when eyes are directed to the right. Ophthalmoscopic examination by Dr. Leroy Pope Walker shows optic neuritis on both sides, with beginning choked disc in left eye. Vessels very tortuous, veins engorged, no hemorrhages. Fundi otherwise normal. Vision, O. D. = $\frac{8}{10}$, O. S. = $\frac{8}{10}$, not improved by glasses. Patient staggers slightly to right in walking. The knee-jerks are exaggerated on both sides. The tongue is furred on the left side only. Taste is diminished on the anterior two-thirds of the tongue on the left side. There is neither motor nor sensory paralysis of the fifth cranial nerve.

The diagnosis is intra-cranial tumor. Localization, lower part of pons on left side. Nature, gumma.

Patient was ordered two ounces of blue ointment to be used by inunction, and iodide of potassium ten grains, three times a day, to be increased five grains daily until relief to symptoms or intolerance of drug had developed. One week later she reported headache absent except on getting out of bed in morning; vertigo less, tinnitus less. Her mental faculties are considerably brighter. No symptoms of iodism from sixty grains three times a day.

29 East Twenty-fourth Street.

[1] Patient presented before the New York Neurological Society, May 7, 1895.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

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THE WORK AND THE PAY.

THE popularity of medicine as a profession is always emphasized at this season by the number of graduates that make their bow with diplomas in hand before large and appreciative audiences on the numerous commencement occasions of the different medical departments of our universities. In fact, the medical graduates outnumber all the others. That the medical departments are the largest in most of the institutions of learning requires no demonstration. It is not difficult to explain why this is so, for no profession offers in its practical pursuit, or rather its conscientious study, better opportunities for substantial mental culture, greater satisfaction in its work, or a wider independence of opinion in the broad and liberal interpretation of its principles. But while it is the grandest of professions, it is certainly the meanest of trades. If the work is done for the work's sake, there is a continuous and ever-increasing satisfaction in its pursuit. It is this, indeed, that lends fascination to drudgery and contentment to comparative impecuniosity. All cannot be great physicians, but there is no reason why all cannot be good ones. The latter is the only real incentive for the young man who is willing to take the exceptional chance of making a trifle more than a good living. The rewards are not to be measured on any conventional money basis. To such as imagine otherwise there is left nothing but disappointment.

Not long ago we took occasion to study the question of the average income of the physician, and, although prepared in some respect for the answer, we were, nevertheless, surprised at the figure. Notwithstanding the amount compared favorably with that received by the average minister or lawyer, it was much below what might have been expected from the boasted returns of would-be prosperous practitioners. The difficulties in the way were obvious enough, but were in a measure offset by the study of certain known standards of available business with possible and actual returns therefrom. Comparatively few in any city or district rendered themselves liable to the threatened income tax. The average yearly income for the country town was from fifteen to eighteen hundred dollars, while that for the city was scarcely above two thousand. Allowance was duly made for bad debts, the latter averaging from thirty to fifty per cent. of all gross earnings.

In large cities there were a goodly number with an income ranging from three to five thousand dollars, but beyond these figures, in the averages from five to twenty-five thousand, there were very few indeed; while above these amounts there were scarcely enough to count on the fingers of one hand. Although high fees in law are far beyond those in medicine, the average lawyer more than strikes a comparative compensation at the other end of the line. The law of average is as certainly balanced between these two extremes as is any purely mathematical equation. The comfort in such a contemplation is that there are more doctors than lawyers who are doing ordinarily well. In the average way, the physician has the better chance of making a fair living.

It is the ordinary every-day fee in the usual and steady run of regular business that gives the doctor his real dependence, rather than the occasional larger amount for an extraordinary service. Surgical operations, while they command higher rates, are comparatively few and far between, and are always offset by the lavish expenditure of time and work in the hospitals for the necessary experience and requisite reputation for such business. But worse than all, for purposes of income the very means used to obtain skill directly militate against the possibility of remunerative returns in the end. Most of the important operations are done in hospitals for nothing and for the sake of the practice; and even the paying classes take advantage, eagerly and persistently, of the situation. This will be more and more the case so long as our hospitals advertise free medical and surgical treatment and our millionaire clinics gather in the pay patient under the guise of clinical material.

From the stand-point of money-getting the doctor has by no means an easy road to wealth. The only comfort is that he is satisfied with little, and is, therefore, comparatively rich; but best of all his work always carries with it a hearty taste, and its steady progress the fuller fruition of a lofty purpose.

THE LEGISLATIVE WORK AND INFLUENCE OF MEDICAL SOCIETIES.

WE are indebted to the excellent summaries of the proceedings of a number of State medical societies in the *Medical Standard* for facts recording the business and legislative work of these organizations. A State medical society nowadays rarely meets without passing resolutions in regard to some proposed legislative work or without the preparation and indorsement of some bills which they hope will be made laws.

The American Medical Association did its share by the introduction of a resolution authorizing the appropriation of $1,000 for the purpose of securing a national board of health. This resolution was naturally referred to a committee, and did not reappear. The American Medical Association is not rich enough to spend its money in chasing rainbows; and it is, we feel sure, very unwise for it to continue passing empty resolutions to the effect that there ought to be a department of public health when it is very well known that such a department cannot be established for many

years, while a very effective bureau of health could be created within a much less time.

The Montana State Medical Association occupied itself in discussing the need of a State board of health, and a committee was appointed to draft a bill in order to secure such an organization.

The Arkansas State Medical Society passed a resolution condemning the State Legislature for passing a bill which confers upon county judges the power to admit to the practice of medicine any applicant who presents himself, whether he be a graduate of medicine or not .

The Illinois State Medical Society through its chairman of the Committee of Legislation reported upon three bills: One providing for changing the law relating to expert testimony, one providing for the establishment of an asylum for epileptics, and a third amending the laws in relation to the sale of poisons. These three bills had all been introduced into the Legislature, but none of them had yet been enacted into laws.

The Pennsylvania State Medical Society has memorialized the Legislature for more efficient provision for registration of vital statistics.

The Ohio State Medical Society has a special committee on State Medical Legislation composed of one member from each county auxiliary medical society in the State. This special committee recommended to the State Society that it approve the Mosgrove Bill regulating the practice of medicine in the State of Ohio, and the Society adopted the recommendation and appointed a committee to take charge of the measure.

It will be seen that the legislative work of our State societies is mainly concerned with the securing of better laws regulating the practice of medicine, better provision for medical education, and better provision for the work of State boards of health. In all these departments the work has been of a kind which tends to benefit the State and society, and there is no question but that our State medical organizations are becoming an important and useful factor in promoting the welfare of our republic. It can easily be seen, also, that they are more important bodies in the community than they used to be. Their attempts at securing legislation are not now met with contempt by the politician, as was often the case.

BICYCLING FOR WOMEN.

THE *Boston Medical and Surgical Journal* contains an article on this ever-present subject by Dr. Charles W. Townsend, and another by Dr. James R. Chadwick. Dr. Townsend's article is based upon the results of a series of inquiries made to a number of female physicians residing in Boston and Massachusetts. Eighteen answers were received. All but one of the writers stated decidedly that they considered bicycling of value to the average woman under proper conditions. Nine had seen no harm from bicycling. The others reported some minor troubles due to intemperate exercise. One had seen a serious ovarian trouble directly due to riding long distances at about the menstrual period. One reports a case of renal hemorrhage, a case of hemorrhage of the womb, a case of inflammation of the ovary with anteflexion, and a case of miscarriage. The question "Would you advise the bicycle in any form of uterine disease?" was answered in the affirmative by all but two. A number of cases are reported showing improvement in retroverted and also in enlarged and even prolapsed uteri. Several speak of the beneficial use of the bicycle in patients to whom walking was difficult or impossible. "It is interesting to note," says Dr. Townsend, "that the favorable criticisms were not obtained from bicycle enthusiasts, as only one of the physicians had used a bicycle herself."

Dr. Chadwick's article is devoted mainly to the subject of bicycle saddles for women. His attention was called to this subject from having seen two cases in which badly fitting saddles had produced leucorrhœa and vulvitis. Dr. Chadwick states that no serious attempt had as yet been made to produce a saddle adapted to woman's anatomy. The result is that women have generally had great difficulty in having a saddle so adjusted as to be rendered comfortable, in other words to avoid pressing unduly on the vulva. Dr. Chadwick's opinion seems to be that bicycle saddles should be especially made for women, that they should have as little projection in the front as possible. With a properly fitting saddle, he considers bicycling an excellent mode of exercise.

MR. HERBERT SPENCER ON THE EVOLUTION OF THE MEDICAL PROFESSION.

IN a series of articles on professional institutions in the *Contemporary Review* Mr. Spencer takes up the subject of the medical profession. He traces the origin of the art, its early association with the clergy, its gradual separation from the sacerdotal authorities and the organization of the profession by itself, and finally the differentiation of the specialties. Mr. Spencer writes what would seem to be a very ordinary essay on the history of medicine if it were signed by any other name than his own. He shows, however, in his final estimate of the status of the medical practice that he has a broad sympathy which includes the quack and the regular practitioner, for he says that the incorporation of authorized practitioners has developed a sort of trades-union spirit which leads to a jealousy of the unincorporated practitioner—*i.e.*, irregular. Like the religious priesthood, he says, the priesthood of medicine persecutes heretics and those who are without diplomas. In America the persecution of heretical practitioners has undoubtedly existed, but it is passing away, and on the whole we think that the charlatan in this country has still a pretty easy time of it, and never has suffered very much.

Uniformity in Electrodes.—The committee on electrodes of the American Electro-therapeutic Association has addressed a circular letter to all the manufacturers of electro-therapeutic apparatuses in the endeavor to secure the universal adoption of uniform connections, a standard gauge of screw throughout construction, and efficient, durable, simple, and interchangeable electrodes.

News of the Week.

Some Features of the Present Medical Law.—In an article relating to some features of the present medical laws of New York State, recently published in this journal, the wording was such as to make possible the inference that on and after August 1, 1895, a new scheme of registration for old practitioners would go in effect. For the benefit of those who may have thus interpreted the article in question we would state that a legal registration in a county clerk's office in this State entitles one to the right at all times thereafter to practise in that county, unless the original license or diploma is revoked for conviction of felony or other cause. The article referred to dealt only with those who had never previously registered here, but who proposed at some future time to enter the State as medical practitioners.

Rheumatic Appendicitis.—Dr. Brazil and Dr. J. E. Frazer, of England, have published several cases of what they call rheumatic appendicitis, in which they think that the inflammation of the appendix is due to uratic deposits. These cases when treated by salicylate of soda are relieved with magical rapidity.

The Doctor in Athletics.—It looks now as though Dr. William G. Grace were likely to have a larger testimonial for having made two hundred runs at cricket than our most distinguished medical men have ever had for years of successful professional work. One of the London daily papers has started a testimonial fund, and it is stated that nearly $10,000 have already been collected.

Ptomaine in the Urine of Cancer Patients.—M. Griffiths has discovered a ptomaine in the urine of cancerous patients. It is a white substance, crystallizing in needles, and has an alkaline reaction. It is very poisonous, and is said never to be present in normal urine.

Death of M. Verneuil.—The death of the celebrated French surgeon, M. Verneuil, is announced. He was the oldest of the French surgeons and had filled all the higher officers of his profession in Paris, having been Professor of the Faculty, Surgeon of the Hospital, Member of the Academy, and President of the Surgical Society. M. Verneuil was one of the most illustrious of French surgeons at a time when to be a French surgeon was not a very illustrious thing. Late in life he retrieved some of his past by adopting Listerism. He was a man of great talent, an eloquent teacher, and a great clinician, but if he had lived in any other country than France he would have been called provincial. Provincialism, however, in France goes by some under the name of patriotism and by others under the name of Chauvinism. M. Verneuil was both a patriot and a Chauvinist.

The Medical Department of Georgetown University has just made a radical change in its courses. All future matriculates will have to attend day lectures and the clinics. This action will lessen the output of sunset doctors.

Doctor of State Medicine.—Rush Medical College, of Chicago, announces that it will give the degree of Doctor Medicinæ Civitatis, or Doctor of State Medicine. The degree is a graduate degree and the candidate must be a Doctor of Medicine of no less than one year's standing. The candidate must have completed, subsequent to registration, six months' practical instruction in a laboratory approved by the Faculty, and also have studied practical out-door sanitary work for four months under an approved officer of health.

Dr. F. L. Forsyth, of Providence, R. I., died on May 11th, aged forty-one.

A Medical Mayor.—Dr. A. W. Fly has been re-elected Mayor of Galveston, Tex.

The Coalition of Free Coinage and Medicine.—One of the Texas medical journals offers to send a free copy of "Coin's Financial School" to every new subscriber.

A Naval Surgeon and a Crazy Captain.—English journals report the case of an English naval surgeon who has recently been court-martialed because of a dispute arising between him and the captain. The dispute arose about the position of an operating-table, and the captain became so excited that the surgeon considered him to be mentally affected and unfit to command the vessel. He therefore ordered him on the sick-list. The captain refused to go and placed the surgeon under arrest. The court refused to allow any evidence on behalf of the surgeon on the question of the captain's health, and after a short consultation, found the surgeon guilty and ordered that he be dismissed from the service. Great indignation is felt at the verdict and mode of conducting the inquiry, and an effort will be made to challenge the decision. The case suggests one of a similar kind that recently occurred in this city.

Professor Trendelenburg has been called to take Professor Thiersch's place in Leipsic. Professor Mikulicz takes Professor Trendelenburg's place in Bonn.

Nosophen and Antinosin.—These decidedly unpoetical names have been given by Drs. Classen and Loeb to a combination of iodine and phenolphthalein. Nosophen is a dark yellowish, odorless powder, insoluble in water. Antinosin is a blue powder slightly soluble in water. Both preparations are said to be without any poisonous effects. They are recommended very highly in the treatment of nasal affections and as antiseptic powders to be used in dressing wounds. They are, in other words, recommended as substitutes for iodoform.

The Warm Bath in Insomnia.—According to Dr. Eccles, the use of the warm bath for the purpose of producing sleep is very efficient if properly carried out. The bath should be administered in a room whose temperature is 65° to 70° F. The patient is made to stand with his head over the edge of the tub, and his head and face are then rapidly douched with water at 100° F. The cooling of the body by the air and the hot sponging of the head send the blood to the head, dilating the vessels of the entire brain. The entire body is then immersed, except, of course, the head, in a bath at 98° F., which is rapidly raised to a temperature of 105° to 110° F. In a few minutes the patient

is taken from the bath, wrapped in warm blankets, and, without exertion on his part, taken to his room. The blankets absorb the moisture; in his room his night-clothes are put on, a warm bottle placed at his feet, and possibly some warm liquid food administered. The sedative and refreshing result is often most marked.

Dr. Richard Dewey, formerly superintendent of the Kankakee Hospital for the Insane, has accepted the position of superintendent of the Milwaukee Sanitarium at Wauwatosa.

The Various State Medical Examiners and Licensing Boards have organized into a National Association with W. W. Potter, M.D., of Buffalo, N. Y., as president and Dr. B. M. Griffith, of Springfield, Ill., as secretary. The object of the association is to establish a uniform schedule for all medical colleges and examining boards and to assist in perfecting a method for higher medical education.

The French Exposition of 1900.—According to *Le Progrès Medical*, the organizers of this exposition have made elaborate preparation for the police and everything else, but have entirely forgotten the medical service. "They have," says our contemporary, "taken great care to protect the houses, but they do not concern themselves with men. Is it that they consider human life so small a thing, or is it because they fear to imitate the Americans?" It would plainly be a very good thing if they did. The medical service at the Chicago Exposition was acknowledged to be a model of its kind.

Thalassotherapy.—We have all kinds of international congresses, but perhaps the most curious one, at least the one with the most Hellenistic name, is the International Congress of Thalassotherapy which met at Bologne in July last and is to meet again in August 27th to the 31st. The two principal questions which are to be discussed are: 1. Pulmonary consumption on the sea-borders, and 2, the technique of sea-bathing for disease.

An International Congress Against the Abuse of Alcoholic Drinks will be held at Bâle, August 20th. The discussions of the Congress will turn upon the subject of alcohol in its moral, hygienic, medical, and social relations, and the means, preventive, persuasive, and coercive, that can be used in combating alcohol.

Death of Dr. Carl Thiersch, the Eminent German Surgeon.—Dr. Carl Thiersch died on May 28th, at Leipzig, aged seventy-three. He was a native of Bavaria and was educated at the University of Munich, graduating in 1846. He afterward resided successively in Berlin, Vienna, and Paris. He was a frequent contributor to the literature of his profession, and the system of skin-grafting which he introduced is now generally adopted by surgeons throughout the world. He also wrote upon maxillary necrosis from phosphorus and upon Listerian methods in surgery.

Colleges with Four-year Courses.—The colleges of Washington should be added to the list of four-year medical schools recently published in our columns, as we are informed by an esteemed correspondent in that city.

The Mississippi Valley Medical Society will hold its twenty-first annual meeting at Detroit, on September 3, 4, 5, and 6, 1895. The railway companies promise a round trip for one fare to members attending the meeting.

Dr. Lewis A. Sayre.—Our famous townsman has been again honored. The Société Belge de Chirurgie has elected him an honorary member as an acknowledgment of his great services to surgical science.

The Honorary Degree of Doctor of Laws.—At the recent commencement of St. Francis Xavier's College the degree of LL.D. was conferred on Dr. Francis J. Quinlan, of the New York Polyclinic.

Mitchell District Medical Society.—The forty-seventh semi-annual meeting of this Society will be held at the West Baden Mineral Springs Hotel, West Baden, Orange County, Ind., on Friday and Saturday, July 5 and 6, 1895. The president of the Society is Dr. Joseph Eastman, of Indianapolis; the secretary is Dr. George W. Burton, of Mitchell, Ind.

American Climatological Association.—At the twelfth annual meeting of this Association, held at Hot Springs, Va., on June 13, 14, and 15, 1895, the following officers were elected: *President*, Dr. J. B. Walker, of Philadelphia; *Vice-Presidents*, Dr. Charles E. Quimby, of New York, and Dr. James A. Hart, of Colorado Springs; *Secretary and Treasurer*, Dr. Guy Hinsdale, of Philadelphia.

Gift to a Cincinnati Medical College.—Mr. and Mrs. Alexander McDonald have given to the Woman's Medical College of the Presbyterian Hospital in Cincinnati, in memory of their daughter, Mrs. Laura McDonald Stallo, a building just east of the hospital. The building is being put into perfect condition under supervision of the faculty, and will be complete in every respect. The value of the gift will approximate $20,000. It will be known as the Laura Memorial College.

Medical and Chirurgical Faculty of Maryland.—The next annual meeting of this Society will be held in Baltimore, the fourth Tuesday in April, 1896. The president for 1895–96 is Dr. J. E. Michael; the corresponding secretary is Dr. James M. Craighill, both of Baltimore.

Gross Monument.—The statue to be erected to the memory of the late Professor Samuel D. Gross is now under contract, and the artist, Mr. Calder, is at present in Europe with his models, arranging to have it cast in bronze. The models were inspected by Mr. St. Gaudens, the distinguished American sculptor, and approved as being very fine. Congress has appropriated $1,500 for the expenses of the foundation, and authorized the engineer corps of the army to select the site for its erection. The place selected is in the Smithsonian grounds at Washington, near to the Army Medical Library. The statue is to be of standard bronze, representing Dr. Gross holding a scalpel in his right hand and in the act of operating at a clinical lecture. It is to be nine feet high, and upon an appropriate pedestal. The money has all been secured through the joint efforts of Drs. J. R. Weist, W. W. Keen, and C. D. Mastin, representing the American Surgical Association and the Medical Alumni Association of Jefferson Medical College.—*Medical News.*

Society Reports.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, April 15, 1895.

SAMUEL B. W. MCLEOD, M.D., PRESIDENT, IN THE CHAIR.

The Significance of Eye Symptoms in Bright's Disease.—DR. FRANK VAN FLEET read a paper, the full title of which was "The Significance of Eye Symptoms in Bright's Disease, with Some Remarks on the Necessity of a More Rigid Enforcement of the Laws Relating to Medical Practice." We have in the back of the eye, he said, an expanded nerve, in front of which was only a transparent medium, so that changes here could be studied positively during life which, situated in other parts of the body, could only be appreciated by their subjective symptoms. Remembering that changes in the nerves and blood-vessels were often the first evidence of constitutional disease, the importance of studying the eye ophthalmologically became at once apparent.

Nephritic disease influenced the eye externally and internally. The external manifestations, as œdema of the lids, required no special mention. Subconjunctival hemorrhages occurred now and then, but so rarely that he had seen the condition mentioned in only one text-book on diseases of the eye. When present its significance was serious. In one of his cases it was the first symptom to cause the patient to consult a physician, although other evidences of Bright's disease had probably existed a year or more.

The changes in the back of the eye involved the blood vessels and nerves, producing hemorrhages in the former case and nerve inflammation in the latter, termed optic neuritis, retinitis, and neuro-retinitis. In the author's experience, valuable information was frequently derived in optic neuritis by examination of the urine. Inflammation of the optic nerve might exist from uræmic poisoning without for a time causing impairment of vision, while headache and other nervous symptoms might be present. The worst condition was retinitis albuminurica, for optic neuritis might subside without leaving any atrophy, but retinitis albuminurica seldom disappeared without leaving its marks. The condition most often found in the eye in Bright's disease was engorgement of the retina with blood, the nerve more or less swollen, the fundus sprinkled with white patches on a red background. The hemorrhagic spots varied in size from a mere point to a half a pea or larger. When such a condition was seen in the fundus of the eye, the observer should think of the kidneys at once, for it usually indicated Bright's disease near the end. In eighty per cent. of the cases death ensued within a year or two, yet there was a chance when it occurred in acute kidney disease of saving life, but even here a favorable termination would depend upon vigorous treatment. He had seen six cases of retinitis albuminurica not associated with pregnancy the past twenty-two months. All had since died but one, and none of the six patients had known that they had renal disease. Chronic Bright's disease was a most insidious affection. In chronic nephritis, retinitis apoplectica was a fatal symptom, being of much graver significance than when caused by rheumatism or gout, for these affections did not necessarily imply disease of any particular vital organ, and the skin, bowels, etc., would probably rid the system of the effete material. But when the cause was a structural change in the kidneys, the outcome could be predicted with certainty. Vicarious elimination would not subserve the same purpose for any considerable time.

Another symptom in Bright's disease was amaurosis nephritica, or sudden blindness. It might occur without any apparent change in the eye, simply as the result of the action of urea on the visual centres, the generally accepted theory being that the direct cause was cerebral anæmia. It occurred most often in acute disease, and might end in complete recovery.

Dr. Van Fleet then related some cases. Refracting opticians flagrantly violated the law regulating the practice of medicine in this State; they advertised openly to test the eyes and to prescribe glasses. Not being physicians, they knew not the significance of optic neuritis, etc., depending upon Bright's disease, and patients were thus kept from consulting those capable of giving them relief until it was too late. Yet the counsel for the County Medical Society had expressed doubt whether this pernicious practice on the part of opticians made them amenable to the law which prevented druggists and others from prescribing medicine. It was the moral duty of the medical profession to at least warn the public of this danger.

DR. J. BLAKE WHITE said he had seen many cases illustrating the necessity for frequent examination of the urine in order not to overlook Bright's disease, for the urine might be free of albumin during several successive examinations and then show this substance. In considering retinitis albuminurica it was well to bear in mind that its prognostic significance depended in some degree upon the form of kidney disease present. For instance, in cirrhosis of the kidney it pointed to a serious systemic condition and a grave prognosis.

DR. G. H. COCKS mentioned two cases in which the first sign of kidney trouble was failing vision. In neither case had there been headache, vertigo, nor other symptom to show that the patients were not in good physical condition. One was a school-teacher from New Jersey, who had sought advice for failing vision and gave no history of Bright's disease, but ophthalmoscopic examination revealed a characteristic picture, pointing to kidney trouble. He told her to return in two days, but he received a telegram, saying that on reaching home she was seized with a convulsion and never recovered consciousness. The second case was similar and the man died sixty hours after the ophthalmoscopic examination, having up to that time been in apparent good health. The cases showed that examinations of the eyes should be made by physicians, not by refracting opticians.

Retinitis Albuminurica Means Contracted Kidney.—DR. N. J. HEPBURN believed it was the general impression among careful observers that a typical picture of retinitis albuminurica almost always meant that type of Bright's disease known as small, contracted kidney. This made it more important as a diagnostic and prognostic sign. Changes in the eyes had been noted sometimes, however, in the other varieties of kidney disease. Regarding refracting opticians, he did not know how the law was going to help us as long as the fault lay at our own door. It was not infrequent for patients consulting him to have glasses which had no relation whatever to their ocular trouble, and when asked where they got them the reply was, at a refracting oculist's recommended by their family doctor. Under the circumstances the refracting optician was not quite as much to blame as might at first seem. In the end it was rather a good thing for ophthalmologists. If the public could stand it, they could.

DR. MEEK thought that Bright's disease associated with retinitis albuminurica constituted a subject which brought the general practitioner and oculist closer together than any other. There were two clinical pictures in which the general practitioner and eye specialist could be of help to each other. In one the patient complained perhaps of only a little malaise, loss of appetite, and diminished strength, and was unable to guess what was the matter. The doctor prescribed a tonic, but he went on to lose more flesh. The doctor had meanwhile found nothing in the urine. The oculist

was then consulted and found in the fundus evidence of a retinitis albuminuria. The general practitioner now examined the urine regularly and was rewarded with further evidence of Bright's disease. The other clinical picture was that where the patient was taken suddenly ill with nausea and vomiting and loss of sight. It was a case in which the cerebral centre for sight was affected, and sometimes occurred after scarlet fever, confinement, etc.

Medical League Against Unprofessional Methods.—DR. BROTHERS read a long list of resolutions adopted at a meeting of medical practitioners in the lower section of the city, March 27th, against unprofessional methods and against those physicians who were guilty of them. It seemed that unprofessional methods of obtaining patients were very common among practitioners, medical institutions, and charitable societies in that section of the city. The resolutions expressed an unreserved and vigorous protest.

Symphyseotomy, with Report of a Successful Case.—The paper was by DR. THOMAS R. SAVAGE, in whose absence it was read by the Secretary, DR. P. B. PORTER. The case was that of a woman in her third pregnancy. The first terminated at the fifth month without difficulty. The second at full term, labor two days; craniotomy. Dr. Savage found the following measurements: External conjugate, 18 ctm.; between the iliac spines, 23.5 ctm.; between the iliac crests, 27.3 ctm.; between the tuberosities of the ischia, 6 ctm.; between the symphysis and coccyx, 8.5 ctm., or nearly three inches. Here was a pelvis decidedly funnel-shaped, normal in measurements at the upper straits, but contracted at the pelvic outlet, transverse diameter of 2.5 inches. He was warned by the obstetrician whom he consulted that no increase in the transverse diameter could be secured by symphyseotomy, but recollecting Jewett's experience he proceeded with the operation. The open method was adopted. The pubic joint was found three-quarters of an inch from the mid-line, which he believed was the common situation. An ordinary bistoury was used to cut the cartilage from before backward. The bones were then found retained in position by the post-pubic fascia, and when this was severed the joint sprung apart an inch and three-fourths with a sudden jump. There was no hemorrhage. Packing with gauze. The separation at the symphysis did not exceed two inches and a half. Forceps were used. The biparietal diameter of the child's head measured three and one-half inches. Dr. Savage did not hesitate to estimate the increase in the transverse diameter at an inch and a half, the separation at the pubic joints being two inches and a half. Careful estimates had shown that the pubic bones could be separated three inches, or, if necessary, three inches and a half, without injuring the sacro-iliac joints. Therefore the fœtus could have been brought out of a considerably narrower pelvis than what existed in his case. Not more than two drachms of blood were lost during the operation. Silkworm-gut sutures were used to close the wound, and the pelvis was supported by a broad band of rubber adhesive plaster. Owing to the œdematous condition, the lower angle of the wound was left open for drainage. Catheterization for two or three days. Convalescence uncomplicated. Patient left the bed after three weeks. At present there was slight mobility between the pubic bones, but not sufficient to interfere with walking or climbing stairs. The child was asphyxiated when born, and quite half an hour was spent before satisfactory respiration was established. This was not uncommon after symphyseotomy, and the operator should be prepared to meet it.

DR. WILLIAM T. LUSK said he would occupy the few minutes allotted to him by calling attention to the good work being done in symphyseotomy in Paris, especially by Pinard and his associates. They had shown that the operation was safe when undertaken before the woman had become too feeble. In the hospital there were four deaths in forty-eight cases, and of this number three of the deaths were in four women brought in from outside after having been tampered with by various physicians. Of the women already in the hospital, forty-four, only one died. The future work for the profession was to discover means for correctly estimating the size of the child's head and the pelvic diameters, in order that there might not be delay in the operation.

Dr. Lusk had observed in Paris that certain precautions were taken against hemorrhage, and he regarded it as fortunate that Dr. Savage had met with very little, for in another case his patient might die in consequence of it. The clitoris should be seized, pulled down, thus putting its suspensory ligament on the stretch, which could then be divided, the cellular tissue pushed out of the way with the main vessels, the same done with the cellular tissue behind the pubes, and as a protector against injury to the bladder, etc., introduce a guide which he exhibited. Another instrument which he showed was intended to measure and regulate the amount of separation of the symphysis. The separation should be done by the physician, up to the required point, say two inches and a half, and maintained at that. If left to the expression of the child's head, as done in this country and in Germany, it was liable to cause asphyxia or other mischief. The head could then be allowed to come down without turning or forceps. As full dilatation of the cervix as possible should be obtained beforehand. There being no support anteriorly after symphyseotomy, forceps were liable to make a rent through the vagina up into the bladder. Let an assistant give support anteriorly, and take the precaution to use axis traction when using forceps. The fibrous structures which held the pubic bones together had been shown to be very strong, and should be united by silk suture after the operation, thus securing perfect union and avoiding subsequent waddling, which usually had been present in cases operated upon in this country. In France the symphysis was nearly always in the mid-line, which suggested some error of observation in this country.

DR. GEORGE T. HARRISON said he had not yet done symphyseotomy, and thought we needed a larger number of cases and a more varied experience in order to judge of its usefulness. It seemed, however, that hereafter embryotomy on the living child would be an unjustifiable procedure.

DR. VON RAMDOHR, referring to Dr. Lusk's statement, said he had had one case of symphyseotomy followed by perfect bony union as demonstrated by a subsequent labor. He felt that the operation was only for experts with plenty of assistance. It ought not to be undertaken hastily, in primiparæ particularly, for we had not yet means for measuring the child's head accurately, and the labor might be completed without an operation.

DR. E. E. TULL had recently been in Paris, and mentioned the fact that there in a given time they had had thirty-nine cases of symphyseotomy, whereas never before had there been so many cases of Cæsarean section for an equal period. This would seem to show that symphyseotomy was now being done in some cases which formerly were delivered with high forceps. In Germany the mortality for the children had been very high, and there was much greater danger for the bladder and pelvis than in Cæsarean section. The last-named operation in selected cases gave but little greater maternal mortality, and less fœtal. He believed symphyseotomy had a very limited field; he had never seen a case in which it was indicated.

DR. VON DONHOFF said he had never performed symphyseotomy, but he saw no reason why one should not undertake it who intended to do surgery. It was impossible to become an expert without a beginning. To undertake the operation like a butcher, one might lose his patient from hemorrhage, but with ordinary care hemorrhage could be avoided. Regarding the

line of the symphysis, he had himself frequently seen it to one side of the median line.

The Therapeutic Use of Electricity in the Application of Dry or Moist Heat in the Form of Electro-thermal Asbestos Pad.—Dr. J. W. Moore exhibited an electro-thermal asbestos pad, connected with incandescent lamp wire, for use as a therapeutic agent, more especially as an advantageous substitute for the nasty poultice. This pad could be either dry or moist, the temperature regulated as desired, and could be left on without attention as long as necessary. He thought it would be useful, in cases of collapse, to take the place of hot-water bottles.

Correspondence.

THE THERMOMETER AS AN AID IN THE DIAGNOSIS OF INCIPIENT PHTHISIS.

To the Editor of the Medical Record.

Sir: In the May 4, 1895, issue of the Medical Record appears an article by Charles Wilson Ingraham, M.D., of this city, entitled "The First Symptom of Pulmonary Tuberculosis and its Detection by the Fever Thermometer." That this instrument is one of the greatest auxiliaries to modern medical science I think we may all unreservedly agree with Dr. Ingraham. He then states "that as a diagnostic instrument it approaches more nearly the zenith of its perfection in cases of suspected tuberculosis, and that a rise in temperature of from one-half to one degree occurring two or three times weekly, . . . or an elevation of one-half degree occurring daily at some time during the afternoon or evening for a period of two weeks, should cause a strong suspicion of pulmonary tuberculosis, even though it is the only indication, and if the daily record shows an elevation of one degree for a similar period, a positive diagnosis of tuberculosis is justifiable, and will in ninety per cent. of cases be confirmed at a later period."

I hardly think the doctor will find as many among the members of the medical fraternity who, from their experience in the diagnosis of incipient phthisis, will support him in this view, as he will in his statements concerning the utility of the clinical thermometer. I am well aware that a more or less continued elevation of temperature associated with concurrent symptoms belonging to this disease is a valuable diagnostic point, but that an elevation of temperature of from a fraction to one degree occurring daily in absence of other symptoms can be taken as evidence of pulmonary or laryngeal tuberculosis, I do not think can be substantiated for the following reasons: We are informed by nearly every standard work on physiology (a fact that anyone can demonstrate upon his own body or that of another, and which I have repeatedly observed) that there is a normal diurnal increase in body temperature of from a fraction to one and a half degree, varying with the individual and time of day, such increase occurring after a full meal, and also being higher from 2 to 5 P.M., and in the evening than in the morning or forenoon. This is a perfectly physiological process. Would it, as the doctor says, be rational or scientific to take the temperature of a patient at 9 to 11 A.M., the time at which it should be about 98.4° F, and compare it with a temperature taken at 2 to 4 P.M., the time when the digestive, absorbent, and assimilative functions are most active, thus causing more oxidation and creating an additional heat in the body, or to compare the forenoon temperature with the temperature at 6 to 8 P.M., the time when the eliminative organs are busy throwing off the accumulated waste products of the day, and thus causing a slight elevation of temperature, and conclude that such elevation indicated phthisis? If such an elevation of temperature could be taken as almost positive evidence of the disease in those slightly debilitated, without additional evidence, there would be more cases of cures of pulmonary tuberculosis reported in the next six months than have been reported since the first knowledge of the disease to the present time. Suppose an individual in poor financial circumstances presents himself or herself to a physician, such person being somewhat emaciated and having poor appetite and digestion, yet giving no symptoms upon which a very definite diagnosis can be made, and the doctor, anxious to do his duty by the patient, uses all his medical skill in trying to make something definite out of the case, and finds a slight elevation of temperature every evening for a few days, in addition to the slight departure from normal before mentioned, and nothing more, would a diagnosis of phthisis, with advice to seek a healthier but costlier clime, or a long course of what the doctor might be pleased to term "anti-consumptive" treatment, but which would mean many dollars to his patient, be rational, scientific, or just treatment? Would it not be more wise and conservative to regulate the secretions and administer tonic digestive remedies, and advise a little rest at home for a time, instead of making a diagnosis of a disease so deceptive in its manifestations that the very best diagnosticians are often deceived and unable to say whether a given case is tuberculosis or not until the disease has made further progress. A large per cent. of such cases, under simple tonic treatment, as before mentioned, regain their usual health, and yet, had their temperature been taken as an indication of phthisis, nearly all of them would have been found to be suffering from tuberculosis, according to Dr. Ingraham's method of diagnosis.

Perhaps this is the reason the doctor has found that this is "the most promising period to treat the disease." I fully agree with him here, but am as fully convinced that the cases which recover by rational treatment at this time are not tubercular in any sense of the word, and that their diurnal increase in temperature is not due to the presence of the tubercle bacillus, but is obeying a law which is in every sense of the word physiological. It has been my experience, which I think is also true with most physicians, that cough is a much more frequent symptom of incipient phthisis than almost any other symptom, and especially is this true as compared with elevation of temperature, and as the tubercle bacillæ are the cause of both (excluding normal rise in temperature) it seems logical that such should be the case for the following reasons: The bacillæ gain entrance to the lung tissue, proliferate, and because of irritation of the minute peripheral nerve endings, and the slight inflammation of the mucous membrane which their presence excites give rise to the little, dry, hacking cough with which we are all so familiar; this occurs before the bacillæ have multiplied in numbers sufficient to poison the blood by their ptomaïnes, and caused involvement of lung tissue to a degree sufficient to cause an elevation of temperature which we can take as anything like definite or accurate data upon which to base a diagnosis of phthisis when we take into consideration the diurnal variation in temperature. When the disease has made progress to such an extent that we can exclude the normal variation, and fairly call the temperature abnormal, physical signs and objective symptoms have made their appearance to such an extent that the disease may be recognized by a score of other manifestations which are more reliable than the "temperature test." I would not depreciate the value of the clinical thermometer, and I do not believe that a physician can be found without one at the present day (unless he be a mental morbid curiosity); yet, when I consider the fact that many of the grand old physicians, some living and some dead, practised so many years and so successfully without them, I sometimes think that there are times when we are governed too much in our treatment of many cases by

what the thermometer indicates, and lose sight of other conditions as indicated by other means, and all because of too much enthusiasm over our clinical thermometer.

RAY BEARDSLEY, M.D.

BINGHAMTON, N. Y., May 31, 1895.

THE DIAGNOSIS OF CHRONIC DISORDERS OF THE STOMACH.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: in your issue for June 1, 1895, there is an article by Dr. H. Beck, entitled "On the Diagnosis of Chronic Disorders of the Stomach," which calls for rather severe criticism. The writer frequently speaks of the stomach-pump. I suppose he means the siphon. I myself have frequently used the stomach-pump, but that was twenty-three years ago, at the time when it was first introduced by Kussmaul, but never since, that is never since the siphon method was substituted. To-day, I presume, we consider the stomach-pump as only of historical interest.

The illustrations which the author gives of errors in diagnosis in regard to ulcer of the stomach are rather inaccurate. Some of the striking clinical symptoms which lead us to suppose the presence of ulcer are not mentioned.

Among other things the author says that a good deal of patience is necessary on the physician's part to evacuate the stomach in its empty state. We will all agree with him in this assertion.

I am at a loss to understand why he prefers tropæolin to the much better congo red test.

Dr. Beck speaks of the presence of HCl in ulcers of the stomach, not mentioning that in exceptional cases this acid may be wanting. The very characteristic circumscribed pain on pressure on the epigastrium is not mentioned, nor are the bloody stools with their pitch-dark color, both such very characteristic diagnostic symptoms of ulcus ventriculi, enumerated.

The author has not deemed it worth while to speak of the presence of lactic acid in carcinoma of the stomach, which Boas has claimed to be one of the early diagnostic symptoms, but about which there has been a great deal of controversy in recent literature.

However, the chapter on carcinoma ventriculi is completed in a very few lines, and not even the absence and presence of HCl in connection with this disease is mentioned.

Again, the histories of acid catarrh of two pregnant women are so inaccurate and incomplete that they have no value whatever.

The author complains that the subject of the capacity of the stomach receives a stepmotherly consideration at the hands of the private practitioner. But the private practitioner, I think, is quite correct in sparing the patient the trouble of this—in most cases—unnecessary and not always exact measurement of the capacity, that is, of the amount of liquid or air the organ is able to hold. It is of paramount importance to know the dynamic capacity of the stomach, and this can never be learned by simply measuring the size of the organ.

The procedure which Dr. Beck gives as a novelty, namely, to determine the lower limit of the stomach, and the apparatus which he calls gastro-meter are by no means new. This method was described in 1878 by J. W. Neubauer in an article in the *Prager Medicinische Wochenschrift*, entitled "Beiträge zur Beurtheilung der Capacität des Magens," and can be found described in any text-book on diseases of the stomach; for instance, in Boa's "Diagnostik und Therapie der Magenkrankheiten," 1. Theil, 3. Aufl., S. 104.

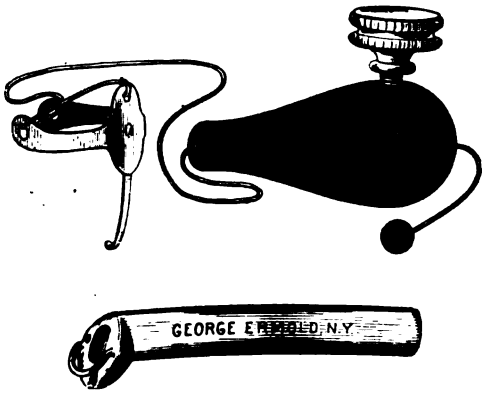
A. ROSE, M.D.

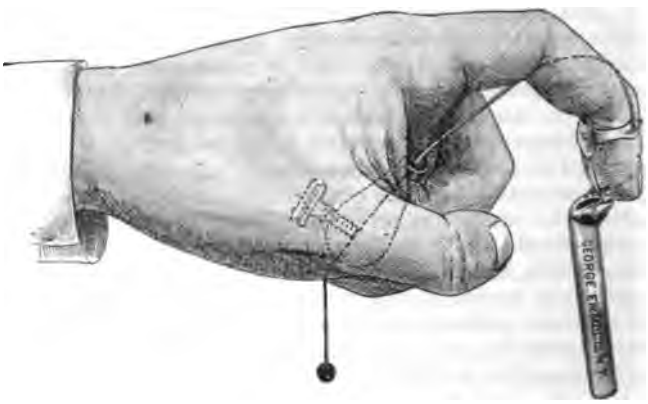
336 EAST FIFTEENTH STREET, NEW YORK.

REMOVAL OF INTUBATION TUBES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The device for removing intubation tubes described in the MEDICAL RECORD of June 15th is so similar to one that I have been using at the New York Polyclinic for the past three months, and which I presented to the Harvard Medical Society on May 25th, and the American Pediatric Society, at Hot Springs,





Va., on May 27th, that I hope you will find space for these cuts, which illustrate the principle of my extractor very well. They are made by Mr. George Ermold, of New York. Yours truly,

DILLON BROWN, M.D.

Supra-pubic Cystotomy for Calculus.—Dr. A. H. Meisenbach (*Journal of American Medical Association*) sums up a paper on this subject with the following conclusions: 1. That the transverse incision is more easily executed from a technical stand-point. 2. That it affords more space in which to work in the depths of the wound than the median incision, and hence is superior for any exploration of the bladder, for whatever condition. 3. That there is less liability to injury of the peritoneum, because the knife is used parallel with and on a level below its lowest fold. 4. That it is unnecessary to inflate the rectum. 5. That it is unnecessary to inject the bladder, and consequently, the risk of injury to the organ is avoided, which in the aged is an element that should always be considered. 6. That the catheter in the bladder is a safe guide to the location of the fundus and anterior wall. 7. That with the catheter as a guide, the bladder can be incised with ease and facility.

The Salicylate of Sodium in Ophthalmia.—A solution of the salicylate of sodium, of the strength of ten grains to the ounce and upward, is highly recommended by an occasional contributor as a collyrium in simple ophthalmia. When frequently applied the effects are quickly manifested.—*New York Medical Journal.*

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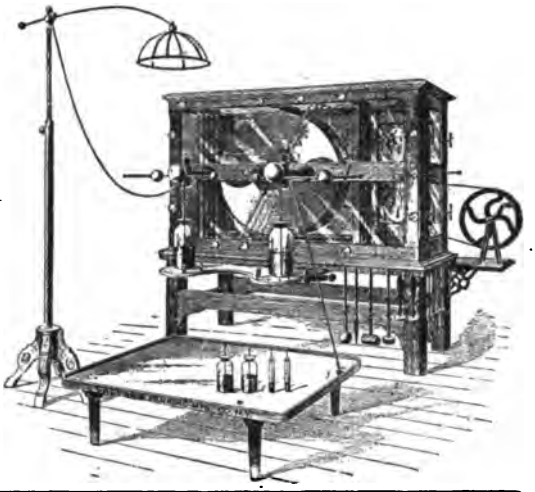

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Write for complete literature.

Packed in 7 cc. vials, ... **$1.50.**
(Immunizing Dose.)

Packed in 20 cc. vials, ... **$3.50.**
(2 Curative Doses.)

We also supply special Antitoxin Syringes with rubber and asbestos packing (suitable for sterilizing). Price, 10 cc., **$2.50**; 20 cc., **$3.50.**

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112 AND 114 DEARBORN STREET.

From the Pen of W. C. WILE, M.D., LL.D., Editor New England Medical Monthly.

Apropos of the discussion of Uric Acid going on in all the leading Medical Journals is the following, which is *up to date:*

Whatever the ***theory*** of a thing may be, a ***personal test*** and ***practical experience on one's self tells the story*** whether a remedy is of value or not.

During a visit to Europe in 1886, and after drinking the hard water at Brighton, the editor of the *New England Medical Monthly* was attacked with Nephritic Colic, and has ever since suffered from a Uric Acid Diathesis. Hosts of remedies and many doctors were tried and tried in vain.

For nearly two years he has drank ***nearly one-half gallon of the Londonderry Lithia Spring Water each day, stopping all other treatment, and with almost entire relief.***

There can be no doubt that the result in his case has been little short of marvelous. He believes it is the best water in the world for this condition.

—*New England Med. Monthly, May*, 1895.

When a Baby's Sick

Nine times out of ten the trouble is in its food. No need to tell a doctor that. The baby food problem was a serious one before sterilization became the vogue. Cow's milk, prepared with an

Arnold Steam Sterilizer

offers the best known substitute for mother's milk. Babies always thrive on it, and their gain is one of solid, healthy flesh, as against the flabby fatness produced by some arfificial foods.

There are reasons why the Arnold is the best apparatus for sterilizing (at 212° F.) and Pasteurizing (at 167° F.). These reasons are fully told in our circular and booklets. Shall we send them?

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IT CONTAINS A GREATER AMOUNT OF NUTRITIOUS MATTER THAN ANY OTHER LIQUID MALT EXTRACT NOW IN THE MARKET.

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WHERE INNOVATING CONSTITUTIONAL TREAT APPLIED, AND A TONIC TREATMENT DESIRABLE, PARATION WILL BE FOUND TO ACT WITH SATISFACTION, ESPECIALLY WITH

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SUPERIOR TO ANY OTHER MALT EXTRACT ON ACCOUNT OF ITS PURITY, AND UNEXCELLED AS A PLEASANT APPETIZER, INVIGORANT AND A VALUABLE SUBSTITUTE FOR SOLID FOOD.

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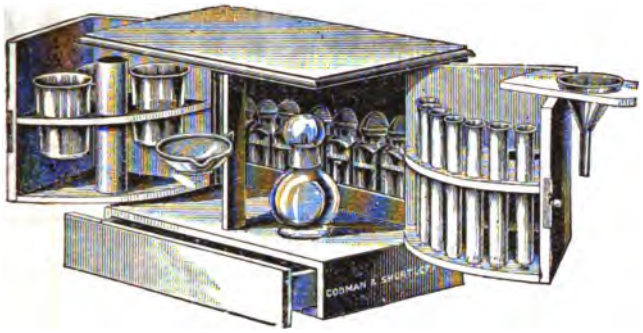

This case contains in compact and convenient form all the apparatus and appliances needed for Urinary Analysis. It is made of seasoned oak, well-finished, and opens as shown in cut. One side is arranged to hold Test Tubes, Large Funnel, etc.; the other, Urinometers, Small Funnel, Beakers, etc. Eight Reagent Bottles (filled and labelled) are arranged in back of case. A drawer, beneath, is for Litmus Paper, Stirring Rods, etc.

THE CASE CONTAINS:

8 Reagent Bottles,	14 Assorted Test Tubes,
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1 Alcohol Lamp,	1 Urinometer,
2 Beakers,	1 Graduated Pipette,
1 Evaporating Dish, Porcelain,	1 Filter,
2 Evaporating Dishes, Glass,	Litmus Paper,

So arranged that each article is ready for immediate use when the Case is opened.

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FOR TREATMENT OF DISEASES OF THE

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By Deep Inhalations.

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ATOMIZER

NO. 169.

In Use—the remedy is combined with Glycerine, Liquid Vaseline, Alboline, or other vehicle.

Produces a **Floating Cloud, Containing Remedy in Substance,** readily received by the cells of the lungs.

Full Directions and Receipts with apparatus.

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Pamphlet on Atomization of Liquids mailed free on request, contains description of newest and best outfits for compressed air, new recipes, etc. New illustrated Catalogue of Surgical Instruments, 800 pages, 2,000 new illustrations, sent on receipt of 14 cents in stamps for the postage.

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DISTILLED EFFERVESCENT WATERS.

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Püllna	3272
Kissingen Bitter-Water	2529½

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Double Carlsbad	1103
Marienbad	859

MURIATED WATERS.

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Artificial Saratoga	1047
Kissingen	855½

ALKALINE WATERS.

Vichy	506
Bilin	495½
Obersalzbrunn	256

MURIATED ALKALINE WATERS.

Selters	370
Gleichenberg	540½
Ems	280

LITHIA WATERS.

Lithia Water	272
Contains Bi-Carbonate of Lithium	146
Vichy with Lithia	543
Contains Bi-Carbonate of Lithium	58½
Carlsbad with Lithia	610
Contains Bi-Carbonate of Lithium	60½

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Pyrmont	316
Contains Bi-Carbonate of Iron	$6\frac{33}{100}$
Schwalbach	43
Contains Bi-Carbonate of Iron	6
Iron Water	$17\frac{76}{100}$
Contains Bi-Carbonate of Iron	$12\frac{76}{100}$
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Wildungen	350½

Carbonic (Club Soda) is highly effervescent distilled water *without* mineral ingredients.

Over six hundred New York physicians use the above waters in their own families—no stronger indorsement required. Address Orders

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BUFFALO LITHIA WATER

Bright's Disease, Scarlet

Dr. THOMAS H. BUCKLER, *of Paris (formerly of Baltimore), Suggestor of Lithia as a Solvent for Uric Acid, says:* "Nothing I could say would add to the well-known reputation of the **Buffalo Lithia Water.** I have frequently used it with good results in Uric Acid Diathesis, Rheumatism, and Gout, and with this object I have ordered it to Europe, from Coleman & Rogers, of Baltimore. **Lithia is in no form so valuable as where it exists in the Carbonate, the form in which it is found in Buffalo Lithia Water,** Nature's mode of solution and division in water which has passed through Lepidolite and Spodumene Mineral formations."

Dr. ROBERTS BARTHOLOW, M.A., LL.D., *formerly Professor of Materia Medica and General Therapeutics in the Jefferson Medical College of Philadelphia, etc. (See his "Materia Medica and Therapeutics.")* "**Buffalo Lithia Springs,** of Virginia, contain well defined traces of Lithia and is Alkaline. This is **used with great advantage in Gouty, Rheumatic, and Renal Affections.**"

Dr. ALFRED L. LOOMIS, *Professor of Pathology and Practical Medicine in the Medical Department of the University of New York:* "For the past four years I have used **Buffalo Lithia Water** in the treatment of **Chronic Bright's Disease of the Kidneys occurring in gouty and rheumatic subjects, with marked benefit.**"

Dr. WILLIAM A. HAMMOND, *Washington, D. C., Surgeon-General U. S. Army (retired), formerly Professor of Diseases of the Mind and Nervous System in the University of New York, etc.:* "I have for some time made use of the **Buffalo Lithia Water** in cases of affections of the nervous system, complicated with Bright's Disease of the Kidneys or with a Gouty Diathesis. The results have been eminently satisfactory."

HUNTER McGUIRE, M.D., LL.D., *President and Professor of Clinical Surgery, University College of Medicine, Richmond, Va., says:* "**Buffalo Lithia Water,** as an alkaline diuretic, is invaluable. In Uric Acid, Gravel, and, indeed, **in diseases generally dependent upon *a uric acid diathesis,* it is a remedy of extraordinary potency.** I have prescribed it in cases of Rheumatic Gout, which had resisted the ordinary remedies, with wonderfully good results. **I have used it also in my own case,** being a great sufferer from this malady, **and have derived more benefit from it than from any other remedy.**"

Dr. G. W. SEMPLE, *Hampton, Va., President Medical Society of Virginia:* "I have a large and favorable experience with the **Buffalo Lithia Water.** I have prescribed it with highly beneficial results in many cases of **Chronic Rheumatism,** and have known it to give marked relief in **Rheumatic Gout, causing the absorption of deposits of Urate of Soda.**

"It has proved particularly valuable as a **Prophylactic** in all of many cases in which I have prescribed it of **Nephritic Colic,** and I have myself derived great benefit from its use in the relief most promptly of several attacks of **Gravel.**

"In **Scarlet Fever** I have known it restore a healthy and abundant secretion of **Urine** when it was highly charged with **Albumen** and the secretion almost suppressed."

Dr. WILLIAM B. TOWLES, *Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia:* "I feel no hesitancy whatever in saying that in **Gout, Rheumatic Gout, Rheumatism, Stone in the Bladder, and in all Diseases of Uric Acid Diathesis, I know of no remedy at all comparable to Buffalo Lithia Water.** Its effects are marked in causing a disappearance of albumen from the urine. In a single case of **Bright's Disease of the Kidneys,** I witnessed decided beneficial results from its use, and from its action in this case I should have great confidence in it as a remedy in certain stages of this disease."

Dr. GRAEME M. HAMMOND, *of New York, Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital:* "In all cases in Bright's Disease of the Kidneys I have found **Buffalo Lithia Water** of the greatest service in increasing the quantity of urine and in eliminating the albumen. **In certain cases of Melancholia, accompanied by excessive elimination of Urates and Uric Acid, it is often the only remedy necessary.** In Gout and Rheumatism it is highly beneficial, and in many cases of Impotency its restorative qualities have been of undoubted assistance."

Dr. ROBERT BATTEY, *of Rome, Georgia, Suggestor of Battey's Operation, writes:* "I have been using the **Buffalo Lithia Water** in my practice for three years past, in cases of **Chronic Inflammation of the Bladder,** whether induced by Stone, by enlarged Prostate in the aged, or by neglected Gonorrhœa, **and have secured excellent results,** which encourages me to prescribe it for the future."

JAMES L. CABELL, A.M., M.D., LL.D., *Professor of Physiology and Surgery in the Medical Department of the University of Virginia, President of the National Board of Health, etc.:* "In the **Lithæmic** condition **Buffalo Lithia Water** is a well-known therapeutic resource."

Dr. JOHN HERBERT CLAIBORNE, *of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia, says:* "In anasarca following **Scarlet Fever** and all cases of renal insufficiency, I have found **Buffalo Lithia Water** a powerful diuretic, and have had excellent results from its use."

IN URIC ACID DIATHESIS,

Fever, and Pregnancy.

Dr. WM. DOUGHTY, *Professor of Materia Medica and Therapeutics, Medical College of Georgia:* "**Over the Nausea and Vomiting of Pregnancy,** particularly in the latter months, where Uræmic conditions are possibly established, and in **Puerperal Convulsions, Uræmia** coexisting, **Buffalo Lithia Water** often exerts marked control."

Dr. JOS. HOLT, *New Orleans, President Board of Health, State of Louisiana:* "I have prescribed **Buffalo Lithia Water** freely in affections of the Kidneys and Urinary passages, particularly in **Gouty subjects, in Albuminuria, and in irritable conditions of the Bladder and Urethra in females.** The results have been such as to satisfy me of the extraordinary value of this Water in a large class of cases usually most difficult to treat."

Dr. HENRY CARPENTER, *Lancaster, Pa.:* "I have found **Buffalo Lithia Water highly efficacious in Uræmic Poisoning** supervening confinement."

Dr. PRESTON ROANE, *of Winston, N. C.:* "In case of **almost total Suppression of Urine,** in a woman **in the latter stages of gestation, with strong threatenings of convulsions,** after exhausting, without effect, the most potent Diuretics of the Materia Medica, I put her upon the **Buffalo Lithia Water,** half a gallon a day, which produced a copious action of the Kidneys, and was followed by relief of the alarming symptoms. **I attribute the safe termination of the case entirely to the use of this Water.**"

Dr. GEORGE M. MILTENBERGER, *Professor of Obstetrics, University of Maryland,* before the Medical and Chirurgical Faculty of the State of Maryland, recommended **Buffalo Lithia Water** as an Alkaline Diuretic in **Albuminuria of Pregnancy.**—See *Trans. Faculty of State of Maryland,* 1886.

Dr. JAMES B. McCAW, *of Richmond, Va.,* speaks, in the "*Virginia Medical Monthly,*" of "**the great value of these Waters in Albuminuria of Pregnancy.**"

Dr. MARTIN L. JAMES, *of Richmond, Va., Professor of Materia Medica and Therapeutics, Medical Society of Virginia.* [Proceedings of the Richmond, Virginia, Academy of Medicine.] "The president of the Academy, Dr. M. L. James, reported a case of **Congestion of the Kidneys** to the Richmond Academy of Medicine. The case was that of a lady eight months advanced in pregnancy, attended by **marked Œdema,** both over the extremities and surface, and by uræmic poisoning to such an extent as very seriously impaired the vision of the patient. The patient was relieved by the free use of **Buffalo Lithia Water** for three weeks. Other remedies, he stated, were used in these cases, but **the favorable results seemed clearly attributable to the action of the Water.**

Dr. T. J. DAVIDSON, *New Orleans, La., ex-President New Orleans Surgical and Medical Association, says:* "I have for several years prescribed **Buffalo Lithia Water** in all cases of **Scarlet Fever,** directing it to be drank *ad libitum* with the effect of **relieving all traces of Albumen** in the urine and have found it equally efficacious in all renal diseases requiring the use of alkaline water."

Dr. THOMAS E. SATTERTHWAITE, M.D., *in the "New York Medical Record" of Nov.* 19, 1887*:* "On February 4th Mr. S. could turn about without so much inconvenience as formerly, and the points of tenderness were confined to the region of the kidney and urethra. He was now put upon the **Buffalo Lithia Water** from Spring No. 2, as I had favorable views in reference to this spring in diseases of a **Lithæmic** character. The decidedly **alkaline nature** of the water is due to the **carbonate of potash and lithia,** and as an alkaline water it is, **for this reason, preferable to water,** which owes its alkalinity chiefly **to the carbonate of soda.**"

Dr. HENRY M. WILSON, *of Baltimore, ex-President Medical and Chirurgical Faculty of Maryland, says:* "My experience in the use of **Buffalo Lithia Water** has not been large, but it is of such a positive character I do not hesitate to express my preference for it as a diuretic in urinary calculi over all other waters that I have ever used."

Dr. W. H. DRUMMOND, *Prof. Medical Jurisprudence, Bishop University, Montreal, Canada:* "In several cases of **Urinary Calculi, vesical irritation,** etc., recently under my care, I have administered **Buffalo Lithia Water** with wonderful success—and in one particular instance, when the patient was suffering most acute pain and distress with forked urinary stream, and all the symptoms of a large Calculus, **entire relief was experienced in eight days; the disintegrated portions of stone passing away without any difficulty.** In this class of cases the **Buffalo Lithia Water certainly has a remarkable effect in breaking up into débris the various masses of stone.** It seems to me that a freer use of this marvelous water would obviate many a case of Lithotomy and Lithotrity."

Water in cases of one dozen half-gallon bottles, $5.00, f. o. b. here.

SOLD BY ALL FIRST-CLASS DRUGGISTS.

THOMAS F. GOODE, Proprietor, - Buffalo Lithia Springs, Va.

Betanaphtol-Bismuth

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A Non-poisonous and Efficient Antiseptic for the Gastro-Intestinal Tract.

A neutral, non-toxic, and non-caustic chemical compound, containing 80% of Bismuth oxide and 20% of Betanaphtol. It is almost odorless and tasteless, and is decomposed into its component parts in the intestines. It not only directly destroys the disease germs in the intestinal tract and neutralizes the poisons formed there, but after absorption it fixes the toxic albumens and favors their elimination from the system.

According to **Professor VON NENCKI,** Betanaphtol-Bismuth agrees well with patients, even when its use is long continued. (Wratsch, 1893, No. 1.)

Drs. SCHUBENKE, BLACKSTEIN, and PETKEWITCH have used Betanaphtol-Bismuth in daily doses of 15 to 30 grains in Baku, in cases of ordinary bacillary diarrhœa and in choleraic diarrhœa, showing a record of recovery in almost all instances. (Wratsch, 1892, Nos. 41 and 51.)

In a paper, entitled "The Preparations of Bismuth," read before the Clinical Society of New York, December 15, 1894, **Professor REYNOLD W. WILCOX** recommends the use of Betanaphtol-Bismuth in the treatment of chronic intestinal catarrh, typhoid fever, etc. After the observation of at least one hundred cases, he believes that better results have been obtained, and that, in a shorter period of time, than could have been expected from inorganic Bismuth compounds.

In the "New York Medical Journal," March 30, 1895, **Dr. HUGO ENGEL,** of Philadelphia, in an article entitled "The Therapeutic Effects of Betanaphtol-Bismuth," arrives at the following conclusions: "Betanaphtol-Bismuth far surpasses in effect the older preparations of Bismuth. In my opinion, if I may draw a conclusion from the cases under my charge, the Betanaphtol-Bismuth is the most reliable intestinal disinfectant that we possess to-day, and combines with its antiseptic action an astringent effect. It can be given with impunity in doses large enough and for a sufficient length of time to achieve our purpose—the cure of diseases due to the presence of infectious material in the alimentary canal; and it may be employed in infants as well as in adults."

DOSE:—For Betanaphtol-Bismuth in gastro-intestinal catarrh, dysentery, gastritis, diarrhœa, typhoid fever, etc., 1 to 3 grammes (15 to 45 grains) daily.

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NATIONAL.

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L. BOLTON BANGS, M.D., Prest., 31 East 44th St., New York City.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Annual Meeting at Chicago, September 20, 1895.

WILLIAM WARREN POTTER, M.D., Sec., 284 Franklin St., Buffalo, N. Y.
J. HENRY CARSTENS, M.D., Prest., Detroit, Mich.

AMERICAN ACADEMY OF MEDICINE.

Annual Meeting at Baltimore, May 4 and 6, 1895.

CHARLES MCINTIRE, M.D., Sec., Easton, Pa.
J. MCFADDEN GASTON, M.D., Prest., Atlanta, Ga.

ASSOCIATION OF AMERICAN PHYSICIANS.

Annual Meeting at Washington, D. C., May 28, 29 and 30, 1895.

HENRY HUN, M.D., Sec., 169 Washington Ave., Albany, N. Y.
WILLIAM OSLER, M.D., Prest., 1 W. Franklin St., Baltimore, Md.

ASSOCIATION OF ACTING ASSISTANT SURGEONS OF THE U. S. ARMY.

Annual Meeting appointed by the President.

W. THORNTON PARKER, M.D., Recorder, Grooveland, Mass.
DANIEL SMITH LAMB, M.D., Prest., Washington, D. C.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Annual Meeting at Montreal, Can., about Sept. 15, 1895.

CHARLES W. ALLEN, M.D., Sec., 640 Madison Ave., N. Y. City.
SAMUEL SHERWELL, M.D., Prest., 33 Schermerhorn St., Brooklyn, N. Y.

AMERICAN GYNECOLOGICAL SOCIETY.

Annual Meeting at Baltimore, Md., May 28, 1895.

HENRY C. COE, M.D., Sec., 27 E. 64th St., New York City.
MATTHEW D. MANN, M.D., Prest., Buffalo, N. Y.

AMERICAN MEDICAL ASSOCIATION.

Annual Meeting at Baltimore, Md., May 7, 1895.

W. B. ATKINSON, M.D., Sec., 1400 Pine St., Philadelphia, Pa.
DONALD MACLEAN, M.D., Prest., Detroit, Mich.

AMERICAN NEUROLOGICAL ASSOCIATION.

Annual Meeting at Boston, June 5, 6 and 7, 1895.

GRAEME M. HAMMOND, M.D., Sec., 58 W. 45th St., New York City.
PHILIP COOMBS KNAPP, M.D., Prest., Boston, Mass.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Annual Meeting at Rochester, N. Y., May, 1895.

CHAS. H. KNIGHT, M.D., Sec., 147 West 57th St., New York City.
JOHN O. ROE, M.D., Prest., Rochester, N. Y.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Annual Meeting at New London, Conn., July 16 to 18, 1895.

S. B. ST. JOHN, M.D., Sec., 26 Pratt St., Hartford, Conn.
GEO. C. HARLAN, M.D., Prest., Philadelphia, Pa.

THE AMERICAN ORTHOPEDIC ASSOCIATION.

Annual Meeting at Chicago, September 19, 20 and 21, 1895.

ROYAL WHITMAN, M.D., Sec., 126 West 59th St., New York City.
JOHN RIDLON, M.D., Prest., 108 State St., Chicago, Ill.

AMERICAN ELECTRO THERAPEUTIC ASSOCIATION.

Annual Meeting at Toronto, Can., first week of September, 1895.

EMIL HEUEL, M.D., Sec., 353 Willis Ave., New York City.
A. L. SMITH, M.D., Prest., Montreal, Can.

CANADIAN MEDICAL ASSOCIATION.

Annual Meeting at Kingston, Ont., August 28, 29 and 30, 1895.

F. N. G. STARR, M.D., Sec., 394 Markham St., Toronto, Ont.
WILLIAM BAYARD, M.D., Prest., St. John, N. B.

THE MEDICO-LEGAL SOCIETY.

Annual Meeting at New York, Dec. 13, 1894.

Meets second Wednesday each month (except July and August) at Academy of Medicine.

CLARK BELL, ESQ., Sec., New York, N. Y.
H. W. MITCHELL, M.D., Prest., New York, N. Y.

THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

Annual Meeting at Buffalo, May 21, 22 and 23, 1895.

EUSTATHIUS CHANCELLOR, M.D., Sec., 515 Olive St., St. Louis, Mo.
Surg.-Gen GEO. M. STERNBERG, Prest., Washington, D. C.

NATIONAL ASSOCIATION OF RAILWAY SURGEONS.

Annual Meeting at Chicago, May 1, 2 and 3, 1895.

JAS. M. DINMEN, M.D., Sec., Fort Wayne, Ind.
S. S. THORN, M.D., Prest., Toledo, Ohio.

AMERICAN PÆDIATRIC SOCIETY.

Annual Meeting at Hot Springs, Va., last week in May, 1895.

SAMUEL S. ADAMS, M.D., Sec., 1632 K St., N. W. Washington, D. C.
F. FORCHHEIMER, M.D., Prest., Cincinnati, Ohio.

ARMY AND NAVY MEDICAL ASSOCIATION.

Annual Meeting at Decatur, Ill., May, 1895.

EDWARD P. BARTLETT, M.D., Sec., Springfield, Ill.
E. P. COOK, M.D., Prest., Mendota, Ill.

TRI-STATE MEDICAL SOCIETY.

Annual Meeting at St. Louis, Mo., April 2, 3 and 4, 1895.

FRANK P. NORBURY, M.D., Sec., Hoffman B'ld'g, Jacksonville, Ill.
JAMES MOORES BALL, M.D., Prest., 810 Olive St., St. Louis, Mo.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Annual Meeting at Detroit, Mich., September, 3, 4, 5 and 6, 1895.

F. C. WOODBURN, M.D., Sec., Indianapolis, Ind.
W. N. WISHARD, M.D., Prest., Indianapolis, Ind.

MEDICAL SOCIETY OF THE MISSOURI VALLEY.

Annual Meeting at Council Bluffs, Ia., September 19, 1895.
Spring Meeting—Migratory—3d Thursday in March.

F. S. THOMAS, M.D., Sec., Council Bluffs, Ia.
A. F. JONAS, M.D., Prest., Omaha, Neb.

STATE.

MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

Annual Meeting at Mobile, April 16 to 19, 1895.

JAMES REID JORDAN, M.D., Sec., Montgomery, Ala.
RICHARD MATTHEW FLETCHER, M.D., Prest., Madison, Ala.

THE ARKANSAS MEDICAL SOCIETY.

Annual Meeting at Little Rock, May 1, 1895.

L. P. GIBSON, M.D., Sec., Little Rock, Ark.
A. C. JORDAN, M.D., Prest., Pine Bluff, Ark.

CONNECTICUT MEDICAL SOCIETY.

Annual Meeting at Hartford, May 22 and 23, 1895.

H. E. WORDIN, M.D., Sec., 174 Fairfield Ave., Bridgeport, Conn.
FRANCIS N. BRAMAN, M.D., Prest., New London, Conn.

THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA.

Annual Meeting at San Francisco, April 16, 1895.

WM. WATT KERR, M.D., Sec., 528 Sutter St., San Francisco, Cal.
G. L. SIMMONS, M.D., Prest., Sacramento, Cal.

COLORADO STATE MEDICAL SOCIETY.

Annual Meeting at Denver, June 18, 19 and 20, 1895.

CAREY KENNEDY FLEMING, M.D., Sec., Denver, Col.
HUBERT WORK, M.D., Prest., Pueblo, Col.

MEDICAL ASSOCIATION, DISTRICT OF COLUMBIA.

Semi-Annual Meeting at Washington, April 2, 1895.

JAMES D. MORGAN, M.D., Sec., 919 15th St., N. W., Washington, D.C.
GEORGE B. HARRISON, M.D., Prest., 605 14th St., N. W., Washington, D.C.

MEDICAL SOCIETY OF DELAWARE.

Annual Meeting at Wilmington, June 11, 1895.

WM. C. PIERCE, M.D., Sec., 827 Washington St., Wilmington, Del.
FRANK BELLVILLE, M.D., Prest., Delaware City, Del.

FLORIDA STATE MEDICAL SOCIETY.

Annual Meeting at Gainesville, April 16, 1895.

J. D. FERNANDIZ, M.D., Sec., Jacksonville, Fla.
J. D. RUSH, M.D., Prest., Apalachicola, Fla.

THE MEDICAL ASSOCIATION OF GEORGIA.

Annual Meeting at Savannah, April 18, 19 and 20, 1895.

DAN. H. HOWELL, M.D., Sec., Atlanta, Ga.
WILLIS F. WESTMORELAND, M.D., Prest., Atlanta, Ga.

ILLINOIS STATE MEDICAL SOCIETY.

Annual Meeting at Springfield, Ill., May 21, 22 and 23, 1895.

JOHN B. HAMILTON, M.D., Sec., Room 20 P. O. Building, Chicago, Ill.
DANIEL R. BROWER, M.D., Prest., Chicago, Ill.

NATIONAL AND STATE MEDICAL SOCIETIES OF AMERICA.

STATE—CONTINUED.

INDIANA STATE MEDICAL SOCIETY.

Annual Meeting at Indianapolis, June 6 and 7, 1895.

FREDERICK C. WOODBURN, M.D., Sec., Indianapolis, Ind.
S. BEND, M.D., Acting Prest., Richmond, Ind.

IOWA STATE MEDICAL SOCIETY.

Annual Meeting at Creston, April 17, 1895.

J. W. COKENOWER, M.D., Sec., Des Moines, Ia.
A. L. WRIGHT, M.D., Prest., Carroll, Ia.

INDIAN TERRITORY MEDICAL ASSOCIATION.

Semi-annual Meeting at Wagoner, December 18, 1894.

G. R. RUCKER, M.D., Sec., Claremore, Ind. Ter.
MELVIN C. MARES, M.D., Prest., Claremore, Ind. Ter.

IDAHO STATE MEDICAL SOCIETY.

Annual Meeting at Boise City, Sept. 9, 10 and 11, 1895.

C. L. SWEET, M.D., Sec. and Treas., Boise, Idaho.
L. H. MOORE, M.D., Prest., Pocatello, Idaho.

KANSAS MEDICAL SOCIETY.

Annual Meeting at Topeka, May, 1895.

G. A. WALL, M.D., Sec., Topeka, Kan.
H. R. PRIEST, M.D., Prest., Concordia, Kan.

KENTUCKY STATE MEDICAL SOCIETY.

Annual Meeting at Harrodsburgh, June 12, 13 and 14, 1895.

STEELE BAILEY, M.D., Sec., Stanford, Ky.
J. B. MARVIN, M.D., Prest., Louisville, Ky.

THE LOUISIANA STATE MEDICAL SOCIETY.

Annual Meeting at New Orleans, May 7, 1895.

P. B. MCCUTCHON, M.D., Sec., 559 Prytania St., New Orleans, La.
R. MATAS, M.D., Prest., 73 South Ramport St., New Orleans, La.

MAINE MEDICAL ASSOCIATION.

Annual Meeting at Portland, June 5, 1895.

CHAS. D. SMITH, M.D., Sec., 126 Free St., Portland, Me.
W. P. GIDDINGS, M.D., Prest., Gardiner, Me.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

Annual Meeting at Baltimore, April 23, 1895.

JAS. M. CRAIGHILL, M.D., Sec., 1730 N. Charles St., Baltimore, Md.
ROBERT W. JOHNSON, M.D., Prest., 101 W. Franklin St., Baltimore, Md.

MASSACHUSETTS MEDICAL SOCIETY.

Annual Meeting at Boston, June 11 and 12, 1895.

F. W. GOSS, M.D., Sec., Roxbury, Mass.
F. K. PADDOCK, M.D., Prest., Pittsfield, Mass.

MICHIGAN STATE MEDICAL SOCIETY.

Annual Meeting at Bay City, first week in June, 1895.

CHAS. W. HITCHCOCK, M.D., Sec., 99 Henry St., Detroit, Mich.
HENRY O. WALKER, M.D., Prest., Detroit, Mich.

MINNESOTA STATE MEDICAL SOCIETY.

Annual Meeting at St. Paul, June 20, 21 and 22, 1894.

CHAS. B. WITHERLE, M.D., Sec., Endicott Arcade Bldg., St. Paul, Minn.
W. J. MAYO, M.D., Prest., Rochester, Minn.

MISSISSIPPI STATE MEDICAL ASSOCIATION.

Annual Meeting at Jackson, April 10, 1895.

H. H. HARALSON, M.D., Sec., Forest, Miss.
P. W. ROWLAND, M.D., Prest., Coffeeville, Miss.

MISSOURI STATE MEDICAL ASSOCIATION.

Annual Meeting at Hannibal, May 21, 1895.

FRANK R. FRY, M.D., Sec., 3183 Pine St., St. Louis, Mo.
J. M. RICHMOND, M.D., Prest., St. Joseph, Mo.

MEDICAL ASSOCIATION OF MONTANA.

Annual Meeting at Anaconda, April, 1895.

W. M. BULLARD, M.D., Sec., Helena, Mont.
GEO. W. KING, M.D., Prest., Marysville, Mont.

NEW HAMPSHIRE MEDICAL SOCIETY.

Annual Meeting at Concord, May 30 and 31, 1895.

G. P. CONN, M.D., Sec., Concord, N. H.
DAVID P. GOODHUE, M.D., Prest., Springfield, N. H.

NEW YORK STATE MEDICAL ASSOCIATION.

Annual Meeting at New York, October 15, 16 and 17, 1895.

E. D. FERGUSON, M.D., Sec., Troy, N. Y.
THOMAS D. STRONG, M.D., Prest., Westfield, Chautauqua Co., N. Y.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Annual Meeting at Albany, Feb. 5, 1895.

F. C. CURTIS, M.D., Sec., 17 Washington Ave., Albany, N.Y.
GEORGE H. FOX, M.D., Prest., 18 E. 31st St., New York City.

MEDICAL SOCIETY OF NEW JERSEY.

Annual Meeting at Cape May, June 25 and 26, 1895.

WILLIAM PIERSON, M.D., Sec., Orange, N. J.
O. H. SPROUL, M.D., Prest., Flemington, N. J.

NEBRASKA STATE MEDICAL SOCIETY.

Annual Meeting at Grand Island, May, 1895.

GEO. WILKINSON, M.D., Sec., Omaha, Neb.
HAMILTON B. LOWRY, M.D., Prest., Lincoln, Neb.

MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA.

Annual Meeting at Goldsboro, May 14, 15 and 16, 1895.

ROBERT D. JEWETT, M.D., Sec., Wilmington, N. C.
JOHN H. TUCKER, M.D., Prest., Henderson, N. C.

NEW MEXICO MEDICAL SOCIETY.

Annual Meeting at Las Vegas, July 10, 1895.

FRANCIS H. ATKINS, M.D., Sec., East Las Vegas, New Mex.
G. W. HARRISON, M.D., Prest., Albuquerque, New Mex.

THE OHIO STATE MEDICAL SOCIETY.

Annual Meeting at Columbus, May 15, 16 and 17, 1895.

THOS. HUBBARD, M.D., Sec., Toledo, Ohio.
D. N. KINSMAN, M.D., Prest., Columbus, Ohio.

OREGON STATE MEDICAL SOCIETY.

Annual Meeting at Portland, June, 1895.

F. CAUTHORN, M.D., Sec., Portland, Ore.
J. A. FULTON, M.D., Prest., Astoria, Ore.

ONTARIO MEDICAL ASSOCIATION.

Annual Meeting at Toronto, June 5 and 6, 1895.

J. N. E. BROWN, M.D., Sec., 552 Church Street, Toronto, Canada.
R. W. BRUCE SMITH, M.D., Prest., Seaforth, Ontario, Canada.

THE STATE MEDICAL SOCIETY OF PENNSYLVANIA.

Annual Meeting at Chambersburg, May 21, 1895.

WM. B. ATKINSON, M.D., Sec., 1400 Pine St., Philadelphia, Pa.
JOHN B. ROBERTS, M.D., Prest., Philadelphia, Pa.

RHODE ISLAND MEDICAL SOCIETY.

Annual Meeting at Providence, June 6, 1895.

WILLIAM R. WHITE, M.D., Sec., Providence, R. I.
ROBERT F. NOYES, M.D., Prest., Providence, R. I.

SOUTH DAKOTA STATE MEDICAL SOCIETY.

Annual Meeting

W. J. MAYTUM, M.D., Sec. and Treas. Alexandria, So. Dak.
R. T. DOTT, M.D., Prest. Alexandria, So. Dak.

SOUTH CAROLINA MEDICAL ASSOCIATION.

Annual Meeting at Columbia, April 24, 1895.

EDWARD F. PARKER, M.D., Sec., Charleston, S. C.
THOMAS J. MCKIE, M.D., Prest., Woodlawn, S. C.

TENNESSEE STATE MEDICAL SOCIETY.

Annual Meeting at Nashville, April 9, 1895.

S. S. CROCKETT, M.D., Sec., Nashville, Tenn.
F. L. SIM, M.D., Prest., Memphis, Tenn.

THE TEXAS STATE MEDICAL ASSOCIATION.

Annual Meeting at Dallas, April 24, 1895.

H. A. WEST, M.D., Sec., Galveston, Texas.
J. W. MCLAUGHLIN, M.D., Prest., Austin, Texas.

VERMONT STATE MEDICAL SOCIETY.

Annual Meeting at Burlington, October 10 and 11, 1895.

D. C. HAWLEY, M.D., Sec., Burlington, Vt.
JO. H. LINSLEY, M.D., Prest., Burlington, Vt.

MEDICAL SOCIETY OF VIRGINIA.

Annual Meeting at Wytheville, Va., October, 1895.

J. F. WINN, M.D., Corresponding Sec., Richmond, Va.
ROBERT J. PRESTON, M.D., Prest., Marion, Va.

THE WASHINGTON STATE MEDICAL SOCIETY.

Annual Meeting at Seattle, May 21, 22 and 23, 1895.

R. L. THOMSON, M.D., Sec., Spokane, Wash.
DARIUS MASON, M.D., Prest., Spokane, Wash.

THE WISCONSIN STATE MEDICAL SOCIETY.

Annual Meeting at Superior, June 19, 20 and 21, 1895.

CHARLES S. SHELDON, M.D., Sec., Madison, Wis.
ALMON R. CLARKE, M.D., Prest., Sheboygan, Wis.

THE MEDICAL SOCIETY OF WEST VIRGINIA.

Annual Meeting at Elkins, July, 1895.

G. A. ASCHMAN, M.D., Sec., Wheeling, W. Va.
D. MAYER, M.D., Prest., Charleston, W. Va.

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REMARKABLE ANALYTICAL REPORT

FROM

"SCIENCE SIFTINGS."

No. X.—Vinolia Soap.

LAST year we repeatedly drew attention to the flourishing business carried on by mercurial face washes, which were, according to their dispenser, primarily intended to obliterate the ravages time makes in the faces of the fair sex. We do not hesitate to assert, however, that in most cases the much-maligned Father Time is irresponsible for the depredations, and that when this is so they are due to the cupidity and dishonesty of the soap-boiler. In short, the swindling soap-seller is the faithful friend of the fraudulent complexion faker. No word can be strong enough for the thorough condemnation and exposure of his pretences.

Bad soaps lead to sorry complexions, which in their turn trend to unhappiness, terminating ofttimes—alas for the weakness of human nature!—in waning affections; now and again in the Divorce Court. We only urge our contention, however, as a first cause; for what contributes more largely to a woman's misery than a muggy complexion; and is there anything that conduces so much to "wither and decay" love? Sometimes the young life is doomed to this curse from the cradle, and most frequently it is resultant on the use of irritating soaps.

Soap is primarily a grease emulsifier. Its function is to attack, by means of its alkali, greasy matter which glues the dirt to the skin, emulsify and loosen it, and thus enable the water to wash off the particles of dirt. In addition to this, the fatty acid comes in contact with the newly-cleansed skin, softens and smooths it, and neutralizes any free alkali which would otherwise prove a severe irritant. Some soaps, in fact, are so drastic in their action that there is, as we have already inferred, the greatest danger in using them for toilet purposes.

We see, then, that the presence of fat and alkali are essential for washing purposes. It may be broadly stated that toilet soap is formed by the action of sodic hydrate upon fats or oils which contain fatty acids. To express it popularly, soap is made from soda, oil, and water. Excess of any of these constituents is bad; too much soda will make the skin rough; too much oil will reduce the cleansing power; too much water will affect the commercial value of the article. Impurity of the fatty matter is likewise a serious evil. It may have originated in kitchen refuse, or even worse. In ordinary domestic soaps this would not signify, but for toilet purposes it would be far from desirable The chief evil, however, with which we have to contend is excessive alkali, and, although this quality may be found pleasant by some who believe that the pricking sensation occasionally caused thereby is stimulating the skin to action, it can do no more than result in painful irritation if the use of soap calculated to induce it be persisted in.

Soap should contain, then, the smallest quantity of alkali that will suffice to saponify the fatty matter. Even the so-called emollient soaps are not guiltless in respect of excessive alkali. It is no exaggeration to assert that the majority of them are only active for mischief. This applies especially to foreign soaps. The soap-maker is also acquainted with the art of adulteration. Lime, gypsum, starch, sodium resinate, and sodium silicate are used to this end, while mercury and arsenic are not infrequently added for coloring purposes. Water may also be classed as an adulterant, since its tendency is to reduce the cost of material. Some soaps contain as much as 60 per cent. of water; a good soap should not carry anything in excess of 20 per cent.

The so-called medicated soaps include in their composition a variety of matters, among which are carbolic acid, tar, etc. These additions are mischievous, notwithstanding the pleasant tingling sensation they set up. Diseases of the skin would be exasperated by their agency. And yet persons with incipient skin diseases—say a tendency to eczema—whose coming can only be prognosed by the practised eye of the specialist, use such compounds, which are freely advertised as curatives and preventives.

We think we have now said enough to demonstrate that the more purely negative a soap is the nearer it approaches perfection. We might suitably conclude our labors with an exposure of the meretricious soaps that are masquerading on the market. Our work would be Herculean. We prefer to simplify the matter by publishing the analysis of one good soap. Such a soap is "Vinolia." We may preface our criticism of it by referring to the reasonableness of its price, which is by no means a negligeable consideration. Our analysis of this soap shows:

Fatty Anhydrides	91.69
Unsaponified Fat (emollient)	0.59
[*Wool Fat*	*Nil.*]
Combined Alkali (Na_2O)	10.49
Sodium Carbonate	0.24
Sodium Chloride	0.04
[*Free Alkali*	*Nil.*]
Insoluble Matter	0.2
Water	6.32
Glycerine, etc. (difference)	1.03

This analysis indicates that the soap is a remarkably good one. It contains a very high amount of true soap, no less than 91.58 per cent., and is practically free from all the objections we have raised in the preceding paragraphs. The moderate amount of water (6 32 per cent.) is particularly noteworthy, as this signifies economy, which is a great desideratum nowadays. The proportion of alkali to fat is likewise desirably exact. Our meed of praise is unstinted for so genuine a manufacture, which, contrasted with the vile fabrications that have at various times come under our notice, displays as great a divergence of likeness as does light to darkness.

It is a great relief to us, after the failings it has been our duty to expose of late, to be able to accord ungrudging praise to "Vinolia." Needless to say, we have decided to award its manufacturers, Messrs. Blondeau et Cie, our Certificate of Merit. We venture to affirm that this honor has never been accorded to a firm whose honesty of intention was more apparent. We feel sure that, for their own sakes, our readers will give the firm all the support of which it is so deserving.

VINOLIA SOAP.—Premier, 15 cts.; Floral, 20 cts.; Balsamic (Medical), 25 cts.; Otto (Toilet), 35 cts.; Vestal, 85 cts.

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Five per cent.	.28	1.00	4.00	each.
Ten "	.35	1.25	5.00	"
Twenty "	.50	—	—	"
Thirty "	.75	—	—	"

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The medication in all our gauzes is based upon the weight of the finished product.

We supply moist gauzes when called for, but in such case it is necessary to specify *moist*. We, however, are of opinion that the simple law of gravitation shows that in the case of some medications there must be a tendency towards *unequal distribution*, and, further, in the case of Corrosive Sublimate Gauze, experiments by scientific experts show that there is a *tendency to change* in the presence of moisture, which may render moist gauzes unreliable, so that, whilst we take every precaution in manufacture, we do not assume the same responsibility with moist gauzes that we do with our standard gauzes.

Dr. W. H. Link writes, in the *Medical and Surgical Reporter*, February 4, 1893: "I have always used the gauzes prepared by Seabury & Johnson, and I can say that I never had a drop of pus in any wound made by my knife and dressed with such material."

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VIII. Ammonol aids digestion; will correct hyper-acidity of the stomach and prevent fermentation during the digestive process.
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X. IT INDUCES SLEEP.
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" Ignatia Amara,	1	"
" Cinchona,	4	"
" Matricaria,	1	"
" Gentian,	½	"
" Colombo,	½	"
" Phosphorus, C. P.,	1-800	gr.
Aromatics,	2	minims.

Dose: 5 to 10 drops in 2 tablespoonfuls of water.

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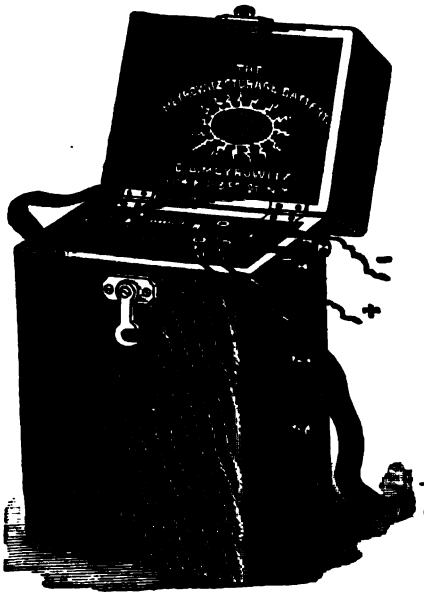

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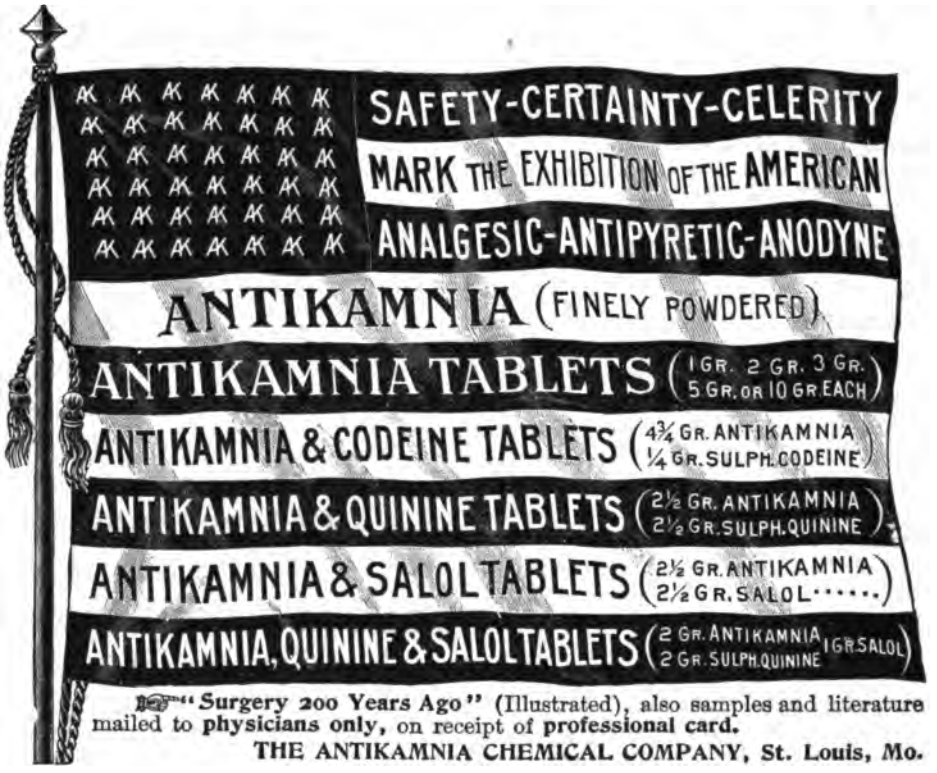
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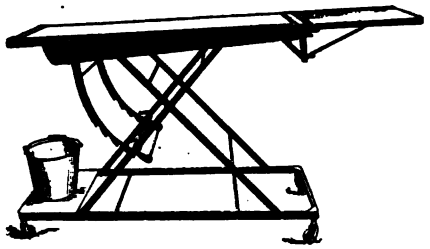

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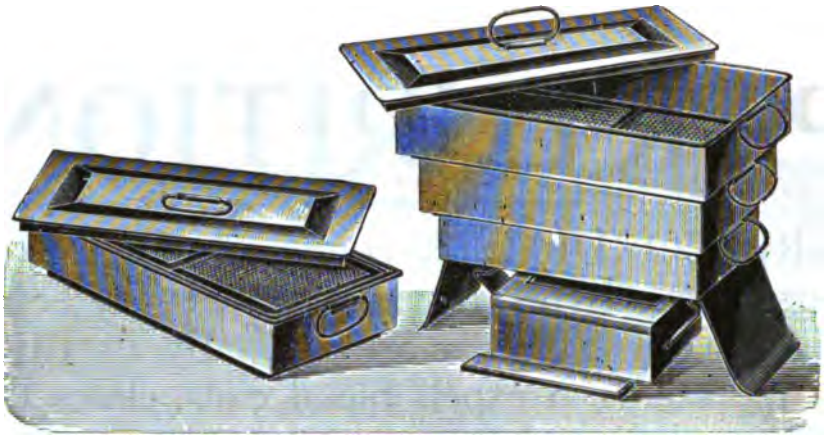

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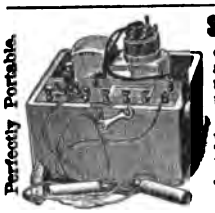

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